An Address
ON
THE CELEBRATION OF THE JUBILEE OF THE FELLOWSHIP OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Delivered on July 6th, 1893,

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BROTHER FELLOWS,—It was a happy thought of a member of our council when, on becoming acquainted with the fact that this year completed the jubilee of the foundation of our Fellowship, he proposed that our Royal College should celebrate the exceptional event; and, as the council readily accepted the suggestion, may I express a hope that the arrangements which have been made by the committee of the council, which was formed to carry out its wishes and which have received the full approval of the council, will be endorsed by you as being not only sufficient in themselves to do honour to the occasion, but as being satisfactory to the personal wishes of the great body of Fellows of this College? That the programme should be opened by a general assembly of the Fellows in a social and convivial spirit seemed to be most appropriate, and it was with no little pleasure that I, on the part of the council and with the council, received last evening in our now completed museum so large a number of our constituents. For it is you who have delegated to us the management of this Royal College as the guardian and promoter of surgical science, with the control of the examinations through which the large body of the profession seek their introduction to practise, as well as the charge of the museum, which through the past century has been so carefully and sedulously expanded and developed by the liberality of this College, the generosity of its Fellows and Members, and the unfailing exertions of the distinguished men who have successively been our biological and pathological curators, particularly the late Sir Richard Owen and the still vigorous Sir Wm. Flower, together with our present curator, Professor Stewart and Mr. J. Targett. At the present time our College consequently not only holds a foremost place amongst the scientific and examining institutions in the United Kingdom, but it possesses a museum which is a monument of man's industry, containing a collection of biological facts and pathological specimens which is unrivalled, and a library which is not only most complete but is thoroughly well used. So that our College may without doubt be pronounced to be an object of admiration throughout the scientific world. It seemed also equally appropriate to the occasion that the Fellows who have been attracted to what I like to call their professional home—in which light I should wish you to regard the noble building in the centre of which I now stand—should be accompanied by those who share with them the pleasures and anxieties of their domestic and professional lives, and who may thus gain some insight, however feeble, into the wonderful machinery which, under the guidance of more wonderful vital forces, goes not only to build up a living being of the simplest kind, but the complicated living human beings with which we as professional men have to deal—possessing intellectual, spiritual and moral faculties which rendered possible such an animated and charming scene as we last night so happily enjoyed.

To-day we assemble to fulfil a duller if not less useful duty, for it has been arranged that I should give, and that you should be invited to listen to, an address which I will do my best to make interesting—firstly, by bringing before you the motives which induced the council of this College more than fifty years ago to seek to establish the Fellowship; and subsequently by endeavouring to show you in what degree those efforts have been successful; and how, by taking advantage of such light as may be reflected from the experience of the past, we may best guide our conduct and shape our future course. As a starting point I would remind you that the Fellowship diploma was first established by a Charter which was granted to this College on Sept. 14th, 1843, and that by the same Charter certain other privileges and advantages were conferred upon this College. For example, the College was henceforth to be known as the Royal College of Surgeons of England, instead of the Royal College of Surgeons in London; the council, or governing body, was enlarged from twenty one to twenty-four members, and it was ordained that three of its members should retire in rotation every year and that the vacancies thus occasioned were to be filled up, as now, every July by the Fellows and from the Fellows; the Court of Examiners was no longer to be composed solely of members of the council, but was to be recruited from the Fellows of the College who were not on the council; and, lastly, the examiners were to hold office only during the pleasure of the council, life examinership as well as life membership of the council being done away with for ever. I would next desire to point out that it was from the palpable evil effects of the government of this College by a council composed of twenty-one self-elected life members, and from which the Court of Examiners was always drawn, that this new departure of the College was brought about. The Fellowship was, therefore, originally established with the view of making a constituency which should have the power of electing members of their own body to the governing council of the College and out of which the council should be composed, and at the same time, in the words of the Charter, "more effectually to promote and encourage the study and practice of the said art and science of surgery"; or, in the less formal words of the council of the period, "to promote a spirit of emulation amongst surgeons, to afford additional inducements to exertion in the cultivation of science, and thus to increase the utility and elevate the character of the surgical profession."[1] I would next wish to show you that this radical reformation of the government of the College came from within its own body, and to support this assertion let me tell you that, although the Charter which established the Fellowship was not granted till 1843, the minutes of the College council clearly demonstrate that as far back as 1832, or eleven years earlier than the date of the Charter, the idea of extending the elective franchise to Members of the College under certain restrictions was entertained; but no mention of the term "Fellow" is met with till April 16th, 1835, when at a council held under the presidency of Mr. Anthony White and the vice-presidency of Sir Astley Cooper and Mr. J. Andrews, it was resolved "that Members of the College of five years' standing, not having within that period practised pharmacy and not being Fellows, Licentiates or Members of any other medical corporation granting licences to practise, shall be entitled to vote for a member of the council." Also it was resolved "that a register of voters should be kept." It was likewise resolved at the same council of April 16th, 1835: "That all those Members of the College above described and proposed as eligible to be voters for and members of the council shall have the additional and honorary distinction of Fellows—of Fellows of the Royal College of Surgeons in London." This council was the first occasion at which the word "Fellow" was used. Orders were then given at the same council meeting, "that a draft of a supplemental Charter embodying these resolutions should be drawn up by the legal adviser of the College." This was done, although the Charter was not applied for in consequence of a Parliamentary inquiry then being made in reference to the medical profession generally, and this inquiry lasted for about seven years. For seven years passed and no mention is made of the new Charter or its objects till Feb. 28th, 1842, when at a special meeting of the council, under the presidency of Mr. G. J. Guthrie and with Messrs. A. White and J. Andrews as vice-presidents, "a communication of the 21st inst. was read from Sir James Graham, Secretary of State for the Home Department, stating that *from his confidential letter* the President would have learned that it was the intention of Her Majesty's Government to propose a measure to Parliament whereby the power and privileges of this College as an examining body will be greatly increased, and he therefore recommended that this council should take into consideration their existing Charter in order to inquire whether under these circumstances it might not be expedient to prepare the draft of a new Charter to be referred to the law officers of the Crown before the measure to which he had alluded is submitted to the consideration of Parliament." Under these circumstances the Draft Charter prepared in 1835, and to which your attention has been drawn, was taken into consideration. The following resolutions were also passed: (1) "That in future there be two classes in the College—Fellows and Members; and (2) "candidates for the Fellowship to undergo

[1] THE LANCET, June 1st, 1844.

a special examination after having attained their twenty-fifth year, in such manner and after such study as this council shall direct." On June 9th, 1842, a draft of the proposed Charter was laid before the council and considered. On June 22nd, 1842, at an extraordinary meeting of the council, the Draft Charter was approved by the council and a committee was appointed to draw up some of its provisions. On Sept. 14th, 1843, the Charter was granted during the presidency of Mr. J. Andrews and the vice-presidency of Sir B. Brodie and Mr. Samuel Cooper, and by this Charter the council had power to appoint within three months not less than 250 or more than 300 Members of the College to be Fellows and also power to appoint within the year other Members to be Fellows. On Dec. 11th, 1843, 300 Members were appointed, by one general diploma, Fellows—their names being entered in a schedule which was attached to the Charter. On Aug. 26th, 1844, under the presidency of Sir B. Brodie and the vice-presidency of Messrs. Samuel Cooper and W. Lawrence, 242 more members were appointed Fellows and diplomas were issued to them; and I must add that this additional number of Fellows was made at the instigation of the Government in order to satisfy the cravings of certain Members. This act which had been pressed upon the council did not, however, appease the discontented Members who had not been created Fellows. Agitation persisted and so influenced the council that they sought for and obtained on March 18th, 1852, a Supplementary Charter, which gave them power to appoint to the Fellowship, and without examination, on the payment of ten guineas, (1) Members of fifteen years' standing on Sept. 14th, 1843, the date of the former Charter; and (2) Members, who were Members on Sept. 14th, 1843, and who should have attained the standing of fifteen years at the time of such appointment. The council was also enabled to admit annually to the Fellowship without examination two Members of twenty years' standing on payment of ten guineas.

I have thus, gentlemen, shown you how in this College the Fellowship question was originally raised, and how it has grown and developed into its present established position; and now, after the lapse of fifty years, let us briefly consider without prejudice or passion, but calmly and reasonably, in what measure the distinction has fulfilled the intentions of its founders; how far it has proved beneficial to the progress of this College in which we all are so deeply interested, and how far it has tended "to promote and encourage the study and practice of the said art and science of surgery," and thus to "increase the utility and elevate the character of the surgical profession." As a means of making a constituency by which the council has since been elected and from which it has since been recruited, there is no doubt as to the good which it has effected, particularly when we bear in mind that such a method of election was a substitute for the life membership of the council and its self-election. By the old method, or "coöptative method" as it has been called, the College was governed by a body of twenty-one self-elected life members. By the new method the College is now governed by a council of twenty-four, elected by a constituency numbering, so far as the voting power is concerned, about 800, and the council, being renewed every eight years, fairly represents the body of Fellows. The difference between the two methods of government is immeasurable, and the advantages of the present system over the old are unquestionable. Whether the means the council adopted for the primary establishment of the Fellowship for the purposes of maturing a constituency were the best possible; whether the council was wise in yielding to the pressure of the Government in making a second large batch of Fellows or in seeking by the Charter of 1852 powers to make Members of fifteen years' standing Fellows without examination, are questions which we need not now discuss; we are all privileged to have our own private opinions upon these different measures, but it would be futile at the present period to enter into their consideration. But this I must say, that as it was palpably necessary to make a constituency other than the twenty-one which originally existed, and as it was deemed wise to make that constituency in the future out of a more highly educated and more rigidly examined class of Members, to be called Fellows, it became an act of primary necessity that a reasonable number of existing Members should at once be made Fellows, since a constituency of Fellows by examination could not be otherwise than of slow formation, as it was not probable that any large number of Members of this College would seek at once a new, although higher, distinction.

Under these circumstances we can hardly blame the council of 1843 for doing what it did, and we must certainly commend them for having selected for the distinction of Honorary Fellows the members of their body who were most skilled in surgery. Whether the council should have stopped at the first batch of 300, or been persuaded to make another 240 and then eventually to grant the Fellowship to men of fifteen years' membership without examination, we will leave open questions. At the present time, considering our steadily increasing constituency of Fellows admitted by examination (fifty a year having been our average increase during the last five years, whereas twenty-six was the average during the ten preceding years), the high standard of the examination, and the estimation with which the Fellowship diploma is regarded by the profession and the public, I think we can well remain satisfied with our constituency and need not seek for its revision. I should, however, be pleased to know that such an opinion is the one generally entertained by the great body of our Fellows.

Turning to the second object for which the Fellowship was established—viz., "to promote and encourage the study and practice of the art and science of surgery"—I do not think that there can be any question as to its success; for is not the diploma of the Fellowship sought for more largely every year? Are not the Fellows of our College amongst the most active members of the profession in all metropolitan and provincial hospitals, infirmaries and public posts? And does not the rapid progress of operative surgery proclaim louder than by lips the wider distribution of applied surgical skill and the greater competition between its skilled practitioners? Indeed I am disposed to think the success of the Fellowship from the professional point of view, from which I am now considering it, is so great that if the early founders of the distinction were to witness the revolution which has taken place in surgical work and workers since their day their looks of astonishment would, even to us, be astonishing, and their judgment as to the success of their Fellowship measure would unquestionably be a favourable one. For on May 25th, 1844—a few months after the granting of the Charter—the council of that period argued: "If the changes introduced by the Charter are to have the effect of elevating the character of the surgical profession generally, it will be in the next rather than in the present generation, and if the elder class of practitioners are interested in these changes it is less on their own account than on that of their sons and successors." Surely we, the successors of those men who framed the Charter which established the Fellowship, can now therefore say with confidence, after the lapse of fifty years, that the hopes of our predecessors have been amply realised. Again, the position of our own College with respect to its relations with the great body of the profession differs widely from that assumed by the Royal Colleges of Edinburgh and Dublin; for, whilst these two Colleges are composed of Fellows and Licentiates, our own College includes Fellows and Members, the Licentiates of the Scotch and Irish Colleges occupying the position of our Members, and the Fellows in all the three Royal Colleges forming their constituencies as well as councillors. By this arrangement of our own College the great mass of the profession, who fifty years ago were chiefly apothecaries (as it was from the Apothecaries' Society under their Charter of 1815 that they obtained their licence to practice), have in steadily increasing numbers sought the diploma of our College and by so doing have not only derived the advantage which naturally appertains to their corporate connexion with such an honourable and well-equipped scientific body as our own, but have also been enabled to call themselves surgeons and by such a name have doubtless helped to raise the body of general practitioners in public estimation.

I hold that these secondary advantages of the new Charter are of no mean order and that they have tended much towards the advantage of the great body of our profession. The only privileges, therefore, which are not open to the Members of our College are those of taking part in its government and of voting, which remain exclusively, and I believe rightly, in the hands of the Fellows. With these facts and conclusions before us, are we not, therefore, fully justified in pronouncing upon this, our Jubilee of the Fellowship, an opinion entirely in favour of the wisdom of our predecessors who founded the distinction? Cannot we say that, as a means of providing a highly educated and steadily increasing constituency, it has not only been a success, but that it promises, as time goes on, to become a still greater success? And can we do otherwise than add, in words of sincerity and truth, that the establishment of the Fellowship by examination has been a very potent force and

is an increasing one, not only "to promote and encourage the study and practice of the said art and science of surgery," but "to promote a spirit of emulation among surgeons, to afford additional inducements to exertion in the cultivation of science and thus to increase the utility and elevate the character of the surgical profession"? Let us therefore, brother Fellows, in this memorable year of 1893, the jubilee celebration of our College Fellowship and the centenary anniversary of our immortal John Hunter's death, join hands together in friendly and warm congratulations upon the progress and present position of our Royal College. Let us recognise to the full the good our predecessors have done to bring about this proud result and at the same time not forget to study such mistakes as they may have committed. Let the constituency of this College work with the council in a constitutional way, the council being fully alive to its duties, as the executive, and the constituency equally alive to its responsibilities as a consulting body. Let me beg of you to send men to the council who will give in return for your confidence the best faculties they possess, their reason and their judgment; and be careful not to trammel their independent action. But, above all, let us be true to one another, nor "set down aught in malice." Let us discuss measures calmly, as educated gentlemen, and with the sole view of making them useful to all the Members and Fellows of this College. We may then be confident that, when another fifty years shall have passed and the progress of this College has to be reported, continued progress will be the record and increased prosperity the result.

A Post-Graduate Lecture

ON

THE NERVOUS SEQUELÆ OF INFLUENZA

Delivered at the National Hospital for the Paralysed and Epileptic, Queen-square, W.C., on June 15th, 1893,

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(Concluded from page 3.)

THE indications of neuritis, which, as we have seen, are sometimes associated with the rheumatic affection of the fibrous tissues after influenza, seem to be the manifestation of a local inflammation, involving a single nerve or a few adjacent nerves. It is not symmetrical, and by this feature, as well as by its origin from the contiguous fibrous tissues, we may feel sure that it is primarily a perineuritis. This explains the long persistence of the pain, because when the sheath of a nerve and its interstitial tissue have been inflamed, the cicatricial contraction of the products of inflammation maintains for a long time the irritation of the sensory fibres. But, as I have already mentioned, we also meet with, as a sequel to influenza, the peculiar symmetrical neuritis which has lately been so much studied, and is known as "multiple neuritis" or "polyneuritis." In this form the connective tissue of the nerves is not the structure primarily affected. Even when accessible nerves have been extremely tender, so as to suggest an inflammation of the sheath, the changes have been found after death to be almost confined to an acute degeneration of the nerve fibres; the tissue between and around them has been almost unaffected, or at most not more involved than the interstitial tissue of an organ always is when its special structures are inflamed—that is, when it is the seat of the inflammation which is termed "parenchymatous." All truly symmetrical forms of neuritis are of this character, and the fact harmonises with their causation. We have seen that they are always the result of a toxic influence, a poison circulating in the blood, and we know that such agents have a tendency to affect in a similar manner nervous structures that correspond on the two sides of the body—correspond not only in position and structure, but also in special susceptibility to the influence of special poisons. This is true of the neuritis which follows influenza, and justifies the opinion I have mentioned that it is due to such a chemical toxine as is produced, directly or indirectly, by the micro-organisms of other diseases, and which in many cases has a conspicuous action on the nervous structures. Moreover, the special susceptibility which underlies the peculiar action extends far beyond any structural peculiarity we can trace. You are familiar with the manner in which various chemical substances may act upon only some of the contiguous nerve elements which seem to us to be essentially similar. This is conspicuous in all forms of toxic neuritis, in some of which the sensory and in others the motor nerve fibres may be influenced, alone or chiefly; even amongst the sensory nerves there may be differences which cause those for pain sometimes to suffer most, at others those for touch. All these facts are illustrated by the multiple neuritis which follows influenza. It is peripheral, affecting the nerves most at and near their extremities. It affects first and most the nerves of the limbs, and its influence is symmetrical in its incidence. It differs, however, from some other forms in less constantly affecting the extremities of the limbs, and it has also some tendency to affect the motor fibres in greater degree than the sensory. It seldom develops during the primary affection, but generally begins a few days, a week, or at most a fortnight, after this is over. Most patients who have suffered from this sequel have recovered, but the clinical features of the disease are now so well known and the distribution of the symptoms, combined with the electrical reaction of the muscles, is so characteristic that the diagnosis can be made with confidence in the majority of cases. I may briefly mention to you some instances of this sequel. They have been for the most part observed elsewhere than in this country, where it would seem there has been less tendency for the disease to induce this affection.

A man aged twenty-five on the eighth day of convalescence from a sharp attack of influenza found that his limbs were becoming weak. The loss of power rapidly increased, involved all his limbs and extended to both sides of the face. The nerve trunks and the muscles of the limbs were tender and the muscles quickly lost faradaic irritability, but preserved the voltaic irritability, the reaction characteristic of nerve degeneration. There was but slight disturbance of sensation. When the loss of power had attained a considerable degree, it was accompanied by the peculiar œdema of the extremities which is often met with in multiple neuritis. Then the palsy ceased to increase, and after two weeks more it began to lessen, at first slowly and then rapidly; the improvement went on to complete recovery (Westphalen). Very similar symptoms in limbs and face occurred in the case of a man aged thirty-three, in whom they commenced within a fortnight of the end of the acute disease. Three weeks later, improvement commenced, but its progress was slow and the patient only regained his previous strength at the end of six months. In this case there was also some paralysis of the ocular muscles, a symptom which is commoner in multiple neuritis after acute specific diseases than in that which results from more simple toxic agents (Thue). Many other cases similar to these in their general features have been recorded. The termination has not, however, been always favourable. In a man aged twenty-five the severe headache of influenza persisted during the convalescence, the pain spread down the back, thence into the limbs, and then took the course of the nerves, muscular weakness being added to it. This increased to complete loss of power in all the extremities, with loss of electrical irritability in the muscles. The failure of power spread to the trunk, involved the muscles of respiration, and the patient died on the fortieth day.

Although the motor nerves seem to be distinctly the more susceptible to the morbid influence, the sensory nerves have also suffered in several cases, both those of the skin and also, if we may judge from the occurrence of ataxy, those which ascend from the muscles. Subjective sensations and defective sensibility in the limbs were the first symptoms in a case which began on the seventh day after influenza, accompanied with loss of reflex action and followed by some motor weakness, due apparently to a very slight affection of the motor nerves, since there was no loss of the electrical irritability. This case presented the rather unusual feature—unusual as regards multiple neuritis in general, although noted in many of the cases after influenza—that the muscles of the face shared the loss of power. The trunk muscles were not involved, and hence the patient escaped the most serious effect of the disease and made a slow but ultimately a complete recovery (Westphalen).

Some of you may remember, and probably all of you know, that the symptoms which we now ascribe with confidence to multiple neuritis were formerly thought to be the result of

disease of the spinal cord. This was an error, but it was not quite so complete a mistake as was thought a short time ago. Many of our errors, which at first seem complete, are ultimately found to be only partial. It is certain, for instance, that the bilateral paralysis of the extensors of the forearms, which is a characteristic feature of multiple neuritis, may be due to an inflammation of the grey substance of the spinal cord; but a similar affection of both arms and legs is only due to disease of the nerves, so that we can with certainty refer the cases I have quoted to neuritis. The circumstance that the cord may be so affected as to cause symptoms in the arms of the same localisation as those which are due to disease of the nerves is important in connexion with a related fact—that the spinal cord may suffer from the same toxic agents as those which affect the nerves. There seems to be, in some degree, a common susceptibility on the part of the central and peripheral structures. This consideration may prepare us for the fact that myelitis as well as neuritis occurs as the sequel of influenza, and that in some cases it is not easy to say which of the two parts of the nervous system is diseased. It is even possible that occasionally both may suffer, just as both suffer under the influence of alcohol, which may produce at the same time peripheral neuritis and chronic myelitis, and the symptoms of the latter may be to a large extent masked by those of the former. In a case observed by Putnam influenza was followed by severe epigastric pain and this by loss of muscular power, which was general, although greatest in the legs, with incoördination of movement in both legs and arms and loss of the knee-jerk. So far the symptoms suggest only multiple neuritis, which was indeed supposed to be their cause; but the patient suffered from weakness of the bladder, which is generally a reason for suspecting disease of the cord. In other cases, again, the symptoms have been so slight and vague as merely to suggest that they depended upon impaired nutrition of the cord. A member of our profession, a strong energetic man, had three attacks of influenza, the first two of which, rather severe, had no after-effects, but the third, which was comparatively trifling, left him with such loss of motor power that for months he could scarcely walk a mile. In other cases there has been sudden and considerable weakness of a single limb, sometimes with anæsthesia, the precise cause of which has been uncertain. But influenza may also induce disease of the spinal cord which is neither dubious nor slight. It has caused acute and severe myelitis, transverse and disseminated, as well as polio-myelitis in characteristic form. Myelitis is an occasional sequel of almost every one of the acute specific diseases, notably of typhoid fever, small-pox and measles. The inflammation after influenza may involve the membranes of the cord as well as its substance, but the affection of the former has been partial; general spinal meningitis does not seem to follow influenza. In a pregnant woman the febrile affection left very severe persistent pain in the back of the neck. A fortnight afterwards her arms became weak, with rapid wasting of the muscles and tingling of the fingers, accompanied with some anæsthesia. Loss of power in the legs ensued, with an increase of all forms of reflex action. Then the diaphragm became weak and ultimately inactive. At the end of three months the intercostals lost power, and as the loss of diaphragmatic respiration had left her dependent on these for breath, the inevitable asphyxia ended life. Inflammatory softening was found in the upper cervical region of the cord, and lymph glued together the pia mater and the dura mater.[1] In a patient whose attack of influenza was complicated by fatal pneumonia, numerous foci of myelitis, simple softening and hæmorrhagic softening, were found in the white substance of the dorsal and cervical cord by Foa, although spinal symptoms had not attracted attention during the prostration caused by the general and pulmonary affections. This combination with inflammation of the lungs has been observed also in cases in which the membranes of the brain have been acutely inflamed, although cerebral meningitis has been met with also as an isolated effect of the virus. This grave effect is not indeed surprising when we consider how intensely severe is the headache which attends influenza; but the combination of meningitis and pneumonia deserves especial notice on account of their significant association under other conditions. You may remember how often pneumonia coexists with epidemic cerebro-spinal meningitis; that in acute pneumonia a special micrococcal organism is always to be found in the lungs; that in some cases of meningitis accompanying pneumonia this organism has also been found in the inflammatory products on the membranes of the brain; and, lastly, that an organism, not quite the same but very similar, is constantly to be found in cases of the epidemic form of meningitis. These facts enable us to perceive, at least, that there may be a very close connexion between the two inflammations; and the facts are also important because, not only is pneumonia very common in influenza, but in fatal cases the same micrococcus is found in the lungs which is associated with the simple form of acute pneumonia. We cannot at present grasp the full significance of these facts, but they deserve note as affording a glimpse into a region of pathology imperfectly explored, and they may be useful by enabling you to retain the facts in your memory. Meningitis has been met with after influenza most frequently, although by no means exclusively, in children. In one child under the care of Baumler indications of meningitis commenced on the twelfth day after the onset of influenza, and it developed with characteristic symptoms, including hemiplegia. Death resulted on the fifth day after the onset, and pus was found over the hemisphere opposite to the paralysis and also on both sides between the dura mater and the skull. In an adult patient acute maniacal delirium was the expression of the meningitis, which became purulent before death; and in another case the tendency to suppuration was so intense that, besides general purulent meningitis, there was a collection of pus within one hemisphere of the brain. In a case recorded by Williamson[1] an abscess in the right frontal lobe was due to suppuration in the right ethmoidal cells. Both pneumonia and meningitis may follow the general disease after an interval. Many cases have been recorded similar to one described by Kohts, that of a child of three years and a half, in whom, a week after the fever had ceased, pneumonia came on. A few days later the pupils became unequal; there were nystagmus and strabismus, followed by convulsions, hemiplegia and death. In a patient, whose case is described by Putnam, cerebral symptoms commenced in less than a month after influenza—headache, followed by convulsions on the left side, which commenced in the fingers and spread to the arm and then passed to the other side. Hemiplegia followed, and the unilateral character of the chief symptoms led to a suspicion that there might be a cerebral abscess; the patient was therefore trephined over the motor region on the right side, but the operation showed the existence only of purulent meningitis. I may remind you that purulent meningitis, apparently similar over both hemispheres of the brain, sometimes causes only one-sided symptoms, no doubt because a slight difference in the influence on the cortical cells, irritative and inhibitory, determines a very great difference in the symptoms by which the inflammation is manifested.

The intra-cranial inflammation which is due to influenza may affect not the membranes but the substance of the brain, as general encephalitis. It may develop in an acute manner during the attack and has been fatal, or has come on a week or two after the cessation of the fever and then has been sometimes subacute and the patient has recovered. An attack of influenza in a woman aged seventy-one, also under the care of Putnam, was followed by attacks of clonic spasm in the left side; in a day or two left hemiplegia, loss of consciousness, coma and death ensued. Capillary hæmorrhages were found throughout the brain, together with an accumulation around the vessels of the peculiar hyaline spherical bodies which have been met with in various acute specific diseases, but in no others. It is probable that foci of cortical inflammation or of softening due to the obstruction of small arteries by such a process as that just mentioned, have been the cause in other cases of convulsions beginning locally, sometimes unilateral, and accompanied by transient hemiplegia, or of the aphasia which has sometimes come on suddenly during or after influenza. As we shall presently see, there is sometimes evidence that the mid-brain region is thus affected. In many other cases there have been vague symptoms, transient but suggestive of more than functional derangement. An instance is that of a man aged sixty in whom the disease was followed by hesitation in speech, a slight impairment in articulation, and some difficulty in walking, with unsteadiness. The symptoms had all passed away in the course of six weeks.

Optic neuritis is an occasional sequel of many acute specific diseases, especially of scarlet fever, and seems to be a direct result of the morbid blood-state, as it may be of the

[1] H. Mackay, THE LANCET, Aug. 1st, 1891.

[1] Medical Chronicle, 1891.

blood-state which is induced by kidney disease. It also occurs after influenza and is another link to unite this with the other specific diseases. The sequel is not very common, and some of the cases in which it has been described are open to suspicion. A patient was brought to me owing to slight symptoms of imperfect action of the nervous system which were supposed to be serious because it was thought that there was slight optic neuritis; but the discs were only red, a feature in itself no more pathological than is the redness of the cheek. Still, many cases have been recorded by careful observers, such as Gunn, Snell, Macnamara, McHardy and others. Failure of sight has commenced two or three weeks after the termination of the febrile disease and well-marked neuritis has been found, which, after reaching a moderate degree of intensity, has gradually subsided, generally with only a slight amount of lasting damage to sight. In a few cases the chief inflammation has been apparently behind the eyeball, because within the eye it was too slight to be the cause of the considerable amblyopia which existed. It is important to remember that retro-ocular neuritis is a not uncommon effect of the blood-states which cause intra-ocular neuritis. Such inflammation has probably been the cause of the atrophy of the optic nerves which has been noted a few times after influenza, attended with irregular changes in the field of vision. Sight may be impaired also from paralysis of accommodation, curiously similar to that which succeeds diphtheria. Several instances of this paralysis have been recorded by Uhthoff in which the failure of accommodation came on either during the attack of influenza or soon after it, either in the two eyes at the same time, or successively. It is of interest as forming another link connecting this disease with one which is known to derange the nervous system by the production of a toxic agent. It is also of interest as pointing to a probable influence of the poison upon the centres for the ocular muscles, of which other evidence is not wanting. Pflüger has described in several cases loss of accommodation combined with palsy of the external muscles, apparently of nuclear origin. There could be no doubt that in a lady aged sixty this part of the brain was the seat of a morbid process, probably inflammation, which we may connect with the frequent disturbance of the functions of the centres in the floor of the fourth ventricle. You may remember how often, even during the pyrexia, the pulse-rate falls below the normal and vomiting occurs without nausea. In this patient the vomiting, which commenced during the fever, continued for three weeks, and its onset was preceded by double vision and accompanied by a slowing of the pulse to 48 per minute. A month after the onset I found loss of power in both external recti, nystagmus on lateral movements of the eyeballs, and some defective sensibility in the region of the right fifth nerve—symptoms which clearly indicated slight structural changes in the upper part of the pons.

The other special senses are not often affected. Hyperacusis has accompanied aural neuralgia. Deafness, such as is due to disease of the nerve and accompanied by the tinnitus which indicates its irritation, has occasionally followed influenza, and in one patient who came under my notice it appeared that in the susceptible cerebral structures the peripheral irritation had produced a form of central tinnitus. The patient suffered, immediately after influenza, from subjective sounds of simple character, which gradually assumed a greater elaboration, until at last they took the form of tunes. The sensitiveness of the auditory centre was also shown by the fact that every tune he heard repeated itself continuously for hours in spite of all he could do to arrest it—

> "The phantom of a silent song
> Which came and went a thousand times."

Inflammation of the middle ear has been a frequent consequence of the disease and has often induced vertigo and an increase in neuralgic pain, as well as its immediate consequences. But this sequel scarcely comes into our present subject. Cases have been recorded in which smell and taste were lost after influenza, but their nervous nature is open to suspicion. The alleged loss of smell and taste, as you probably know, only means that smell is lost, the supposed loss of taste being only the loss of the perception of flavours, which are simple olfactory sensations produced by odours which enter the nose through the posterior nares. It was so in one patient who was brought to me with this supposed double sequel of influenza; the catarrhal process in the nose had interfered with the functions of the olfactory nerves merely by the thickening of the mucous membrane it had caused.

Besides the local pain of neuralgia, the general headache of the febrile stage has often continued in a persistent form, with exacerbations from time to time. The paroxysms become more pronounced as the continuous headache becomes slighter, and they are occasionally one-sided and present many of the features of migraine. In many other cases the headache has been replaced by some cephalic sensation which differs from true pain, although sometimes equally distressing to the patient. It is often peculiarly obstinate by reason of the facility with which it is fostered by the attention which the sufferer cannot help bestowing upon it. Sensations of pressure, tension, burning, superficial formication and the like may continue for months. One patient had delirium during the acute affection, for which an ice-cap was applied to the head for a few days, and for more than a year afterwards he was annoyed by a continuous sensation as if the cap were still in contact with the head. It was associated, as such sensations often are, with some true pain, occasional only and fugitive, felt sometimes in the head and sometimes in the limbs. The same combination of unpleasant sensations with actual pain was presented by a woman who had a sharp attack of influenza when weakened by lactation, and for a whole year she was never free from some sensory disturbance, shooting pains in the limbs, tingling in the toes and fingers, and continuous occipital headache, which seemed at times to pass through to the frontal region in successive waves of pain.

When disturbance of function is so enduring we must believe that it is maintained by changes in the nutrition of the nerve elements, the result of the influenza, exerted on them by the virus in its primary or secondary form. The severity of the early symptoms makes it not surprising that the organic changes in the nervous system, numerous as they are, are exceeded in number, and vastly exceeded in frequency, by the functional derangements which follow the disease. I have mentioned the neuralgia and the headache which so often prolong or renew the acute suffering of the febrile stage. As a rule, however, the early pains cease before the acute disease is over, but it is not so with the other leading nervous symptom of influenza, the peculiar and profound depression which has sunk so deeply into the memory of almost every person. It begins during the acute stage, but is felt most as the other symptoms pass away, and permit the mind, freed from this engrossing influence, to realise the fresh chains that have been insidiously placed upon the conscious life. It is an intense feeling of inertia; every action, physical or mental, requires an effort of the will to initiate and maintain it that is almost painful. Immobility of mind and body alone seems possible, and yet even rest has to be endured, for it brings no freedom from the sense of prostration. So strange and unfamiliar is the state that it seems at first as if it could be only transient and would be gone to-morrow, but the mistake is realised when day after day and week after week pass without relief. In perhaps the majority it is only after some months that the natural freedom of untrammelled effort is regained. This peculiar depression and inertia attend and follow almost every attack, but are especially prolonged after the second or third recurrences. The condition may then indeed increase for several weeks and continue unabated for so many months that its relation to the recurrence of influenza, often slight in degree, may seem incredible, especially when the inertia is attended, as it often is, with some definite mental and physical weakness. The mental disability is shown by the difficulty in concentrating the attention and, partly in consequence of this, the memory is defective or seems to be because it does not respond in adequate degree to the voluntary demand which we designate "recollection." It is not surprising that this condition should sometimes develop into a state of mental depression resembling and sometimes amounting to definite melancholia. This sequel is by no means rare and it often presents the character that is termed "hypochondriacal," because a fancy that nervous physical ailments exist is added to the depression. Such hypochondriacal delusions are generally fostered by the varied discomforts to which I have before alluded and which are so often felt in the head to a distressing degree. A man of fifty-three was seized with influenza soon after losing a brother from locomotor ataxy, and after it, slight pains he had before felt in his legs, and which had caused him concern, were increased to a distressing degree. He became intensely depressed and fancied himself to be the victim of disease after disease. Each

medical examination which dispelled one false conception seemed only to make him free to entertain a fresh one. His state was rendered worse by attacks of gouty dyspepsia, in some of which his depression became so profound as to induce a strong suicidal tendency, and during these exacerbations he had attacks of characteristic hysterical globus. After his digestive organs were rendered tranquil his mind became more so and he gradually recovered.

I need not, however, dwell upon the psychical sequelæ at length, because they have been well described by Savage. I will merely mention that, just as the depression develops into melancholia, so the delirium which occasionally attends the acute affection may have for its special sequel chronic delusional insanity and, very rarely, acute mania. Moreover, the defect of mental power which, as I told you, sometimes accompanies the lack of mental energy, occasionally increases to such a degree as to amount for a time to dementia. This is seen sometimes in childhood, and it is seen also in the period of life which is "second childhood" in so much more than in name. One old man, whose mind had been vigorous up to the attack of influenza, a month later presented a condition which I can only describe by saying that it was as if a sponge had been passed over his brain and had wiped all his mind away. He sat still and silent, taking the food that was given to him, but manifesting no interest in things or recognition of persons that came before him; he was, in fact, reduced to a vegetative life. But remember that the worst forms of mental derangement after influenza occur in those who are distinctly predisposed to suffer in this manner—predisposed either by inheritance or by similar previous disturbance. Indeed, some of the graver affections, such as general paralysis of the insane, have been met with after influenza only when this was preceded by distinct symptoms of the commencing disease, and the attack of influenza has merely accelerated the developing disorder.

A malady so depressing to the nervous system can hardly fail to evoke the manifestations of hysteria in those who are predisposed to it, in whom it is prone to arise at the bidding of any disease of the general or nervous system. The list of the predisposed embraces most women, many children and some men. Very severe hysteroid convulsions have been observed in children after influenza, and even in men peculiar and varied manifestations of this functional disorder have been met with. The disease has also been followed by every conceivable manifestation of impaired nutrition of the nervous system, such as it is now customary to designate "neurasthenia." Some of these are often manifestations of hysteria, but they occur apart from other symptoms of this state. Amongst these are the peculiar conditions of trance and catalepsy. A woman under the care of Dr. Inglott, immediately after the termination of a severe attack of influenza, suddenly became unconscious and passed into a state of perfect cataleptic trance; after two hours she recovered and had no other attack. Cases of simple trance have also been observed, being sometimes profound and prolonged, as in an Italian, who narrowly escaped interment in this state.

Epilepsy has commenced within a week of the termination of influenza and in many cases it has then recurred after freedom from attacks for years. In one remarkable case, recorded by Churchhouse, tetanus, for which no traumatic cause could be discovered, commenced on the sixth day after the onset of influenza, the usual trismus being followed by general tetanic spasms; the malady ran a rapid course and ended fatally. Ordinary chorea has been observed, but not so frequently as might have been expected. In one case the peculiar "senile chorea" developed in a woman of sixty-two and ended in death.

This list of the nervous sequelæ of influenza might be largely increased by an enumeration of the varieties of the leading forms I have mentioned or illustrated; but what I have said will suffice, I think, to give you a knowledge of these consequences of our modern "plague" sufficient to make you conversant with them in the degree needed in your practical work. I may add that the prospect of recovery is good in the vast majority of cases. The exceptions to this rule are those with grave organic disease, such as the central inflammations, and also the conditions of deficient strength involved in early or late life. Remember also that the duration of any disturbance and the prospect of ultimate recovery often depend on the presence or absence of a predisposition to the special ailment.

The knowledge of these sequelæ of influenza will probably yet be needed to some extent. Moreover, disease is one, though diseases are many, and the affections that occur as sequelæ to this malady are also met with apart from it, so that many of the facts we have considered find frequent application. Even in their special relation they will again be useful. From the history of the past, which has been described as a "slightly varied repetition of the future," we may feel sure that influenza will come again, and its sequelæ will make anew demands on the knowledge and the skill of at least many of those who are here. We may hope that it will be long before the knowledge has again to find its special use. To some of us the occasion will not come, but I may at least hope that those to whom it arrives may then find the facts and considerations I have laid before you, of some practical value, even though the occasion on which, and the person from whom, you learned them have become memories of the distant past.

The Croonian Lectures

ON THE

PHARMACOLOGICAL ACTION AND THERAPEUTIC USES OF THE NITRITES AND ALLIED COMPOUNDS.

Delivered at the Royal College of Physicians of London on June 22nd,

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LECTURE II.—*continued.*

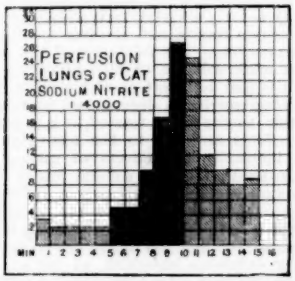
INFLUENCE ON RESPIRATION.

AMYL and alkaline nitrites in the lower animals first increase the depth and frequency of the respiratory movements, though toxic doses paralyse respiration before the heart ceases to beat. We may assume, then, that medicinal doses will tend to stimulate respiration, so far at least as the respiratory centre is concerned. The manner in which the nitrites affect the pulmonary circulation requires further consideration. To ascertain the state of the pulmonary circulation after amyl nitrite, Dr. Filehne[1] made an opening in the chest wall, leaving the costal pleura, which in the rabbit is very translucent, intact. On giving nitrite of amyl he saw no congested condition of the lung and came to the conclusion that the lung vessels are not affected by this drug. From this it would follow that the vessels of the lung are not influenced by a nitrite as are those of the kidney, skin and extremities. To determine whether this is so or not a cat was killed by chloroform and immediately after death placed in a warm chamber; the chest was then opened and an inflow tube fixed in the pulmonary artery and an outflow tube in the left auricle. The inflow tube was connected with two reservoirs of blood, to one of which 1 part in 4000 of nitrite of sodium had been added to pure blood, and the pure and nitrite blood were allowed alternately to pass through the lung tissue, the effluent blood from the pulmonary veins being measured by means of a tube placed in the left auricle. The pressure in the lungs was kept constant by attaching a tube in the trachea to a manometer and air reservoir. (Fig. 19.) It will be seen from the diagram that, whilst the rate of flow with normal blood was 1½ c.c. per minute, directly sodium nitrite was introduced an increase to 7 c.c. took place. On continuing the perfusion of the nitrite a rise to 27 c.c. per minute occurred; a change to normal blood brought the flow back to 8 c.c. The nitrite caused the colour of the lung to change to a chocolate brown. I have repeated the experiment several times, with varied conditions as regards pressure &c., but always with a similar result, and I think there can be no doubt that sodium nitrite influences the vessels of the lung like the other vessels of the body. Similar dilatation was produced in

[1] Pflüger's Archiv, vol. lx, p. 478.

other experiments by introducing nitrite of amyl into the trachea. In all cases a second perfusion of the nitrite again increased the flow. If, as we have every reason to suppose from these experiments, the administration of nitrites is followed by temporary dilatation of the vessels of the lung, the work of the right heart may be relieved by them, and it seems to me quite possible that some of the good results

FIG. 19.



The figures at the base represent the number of minutes during which perfusion took place, those in the perpendicular line the number of cubic centimetres of blood passing through the lung; the lightly shaded squares represent the flow whilst pure blood was passing through the vessels, the dark squares whilst nitrite blood was flowing.

observed from nitrites in attacks of dyspnœa may be the direct result of the relief thus given to the smaller circulation.

DIGESTIVE ORGANS.

The effect of nitrites on the digestive organs varies greatly in different individuals; usually after the ingestion of sodium or ethyl nitrite slight eructations of nitrous gas occur. To some persons nitrites act as powerful gastric irritants, the smallest quantity causing sickness and diarrhœa. It is easy to understand the cause of stomach irritation when nitrites are taken by the mouth, for nitrous acid is always at once set free, and in some it acts as an irritant, though most persons tolerate it in small quantities and feel no discomfort from its temporary presence. Where even inhalation causes stomach irritation and diarrhœa it is probably due to excretion of nitrites by the gastro-intestinal tract.

URINARY ORGANS.

From the dilatation of the kidney vessels which nitrites cause we should naturally expect that increase in urinary secretions would follow their use, and doubtless such increase does at times occur. Dr. Murrell has seen, after the administration of nitroglycerine (which acts like a nitrite) to a patient with epispadias, an immediate increase in the flow from the ureter, and nitrous ether has long had the repute of being a diuretic; nevertheless, neither in animals nor in men can it be shown that any of the nitrites continuously or greatly influence the flow of urine. In some careful experiments made on animals Dr. Atkinson found that small doses of nitrite of sodium either do not affect the urine at all or sometimes slightly diminish, sometimes slightly increase it, but large doses always decrease it. The urea and uric acid secretion were practically unaffected. In a series of cases I have tried to ascertain the influence of continuous doses of the nitrite of sodium on the kidneys in man. In twelve non-febrile cases free from cardiac and kidney disease I noted the influence of three grains of sodium nitrite given three times daily on the excretion of water during one week and compared it with the amount excreted in the week immediately preceding and in the week immediately following the exhibition of the nitrite. Seven passed more when the nitrite was given, five rather less. In only one was the increase very distinct; here it amounted to nine ounces per diem, and as in the week following the nitrites the increased flow was in part maintained it is not quite certain whether the nitrites were altogether responsible for it. In a second case there was a distinct but not very great augmentation, averaging five ounces daily, which was not maintained when the nitrites were stopped. In all the other cases the difference between the quantity passed before and during the administration of the nitrite was too slight to suggest that any influence was exercised by it. In three cases the amount passed the day following the nitrite was distinctly increased. In these two, and in a third perhaps where the increase was distinct though less marked, it is probable a temporary effect was produced by nitrites, and I believe that under some conditions nitrites do increase for a short time the secretion of water. The estimation of urea is open to many fallacies unless every circumstance is taken into account. I have determined the amount in many cases and compared the amount passed whilst nitrites were being taken with the amount passed before and afterwards; the general result I have arrived at is that nitrites do not increase the excretion of urea.

A drug which in a state of health has but little influence on the urine flow may prove a diuretic in certain conditions of disease, but I have been unable to satisfy myself that nitrite of sodium or ethyl can be relied on to act on the kidneys in the ailments for which diuretics are needed. In some forms of chronic Bright's disease I have seen a considerable increase in the urine follow the administration of sodium nitrite and nitroglycerine, yet it has never been prolonged. In cardiac dropsy I have not seen continuous diuresis produced. Notwithstanding that I hold the nitrites in light esteem as diuretics, it is quite likely that a full dose of spirit of nitrous ether has at times a distinct effect in causing a temporarily increased flow of urine. Half an ounce of spirit of nitrous ether represents, perhaps, the same quantity of rectified spirit as a fair dose of ethyl nitrite. Such a compound is well adapted to act both on skin and kidneys. But I have great doubt whether the administration of spirit of nitrous ether in doses of from fifteen to twenty minims three times daily as a mixture can be of any service as a diuretic. Even at first the amount of nitrite present is probably too small to influence the circulation sufficiently, and the dissipation of the ethyl nitrite commences as soon as the mixture is made up. One advantage the nitrites certainly have—they do not irritate the kidneys. In the lower animals they have been found capable of producing glycosuria when inhaled or injected, and even in man such an effect is not unknown. Dr. Maragliano,[2] who caused his patients to inhale forty drops of amyl nitrite for forty minutes from four to six times daily for the cure of epilepsy, says that he found sugar in the urine in most cases.

TEMPERATURE.

The influence of nitrites on temperature is not an important consideration in their therapeutic use. The quantity in which they are given medicinally is not likely to affect tissue change, but, dilating the vessels as they do, they at first slightly raise the external temperature. As they expose more blood to the surface they will tend subsequently to lower the body temperature, but the effect in either direction is inconsiderable unless toxic doses are given, which very greatly reduce temperature, perhaps by diminishing oxidation.

PERSPIRATION.

For several centuries spirit of nitre has been a popular diaphoretic, and of its effects and influence in causing perspiration under some conditions there can be no doubt. After drachm doses of a 2½ per cent. solution of ethyl nitrite in alcohol I have not infrequently seen the face bedewed with moisture in from ten to twenty minutes. In this condition general perspiration has been readily brought on by the application of warmth. The same result has often followed two grains of sodium nitrite; in one subject perspiration usually occurred after small doses of any nitrite, even though he was not in bed. As a rule, however, no perspiration is produced by ethyl or sodium nitrites unless in conditions favourable for its occurrence. The diaphoresis is doubtless due to the dilatation of the cutaneous vessels which the nitrites cause and is therefore but a passing effect. The value of the time-honoured cup of hot gruel, followed by half an ounce of spirit of nitrous ether, it is easy to understand; diaphoresis may result, but the diaphoretic value of from ten to twenty minims of spirit of nitre as usually given medicinally is very problematical.

SUMMARY OF INFLUENCE ON TISSUES.

The chief pharmacological characteristic of the nitrites is their power of temporarily affecting muscle tissue. Under ordinary conditions the amount of nitrite present in the tissues of the living body is not sufficient to disturb the functions of voluntary muscles, even though it has been shown that in solutions of 1 in 5000 it has a marked effect on muscle; but the involuntary muscles and heart are affected by marvellously small quantities of the nitrites. Whilst, however, their contractile power is impaired by these small amounts they are

[2] Nota di Clinica Medica, Genova, 1880.

not really injured, for on removal or destruction of the nitrite molecules they rapidly resume their normal function and no trace is left of their effects. If frequently exposed to these same molecules they seem to become less readily affected by them. The tissues of the nervous centres seem to be less easily affected than the muscle tissue, but probably the influence of nitrites is here equally fleeting. Considering the very powerful action of nitrites on muscle tissue, their effect on other structures is very slight. In dilute solutions nitrite of sodium is not a tissue irritant and is not very destructive to the lower forms of life. Solutions of 2 per cent. and upwards applied to mucous or raw surfaces or injected under the skin give rise to pain, but the same effect is produced by chloride of sodium solutions of the same strength.

THE NITRATE GROUP.

$$O{=}N{-}O$$

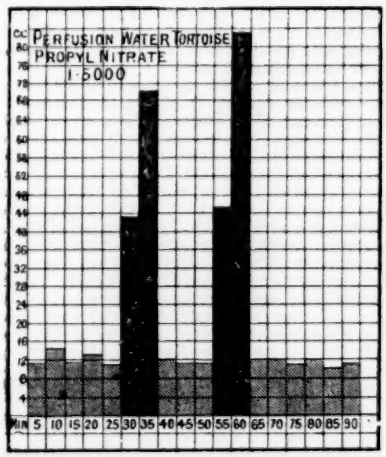
I pass on to the pharmacology of the nitrate group before dealing with the therapeutics of the nitrites, because the organic nitrates, about which I shall have most to say, have in some respects a similar physiological action to the nitrites, and it will be convenient to deal with their therapeutic uses together. The similarity seems to arise from the fact that under certain conditions the NO_3 molecule of organic nitrates is reduced to NO_2 and not from any likeness in the action of the two molecules. I do not propose to do more than indicate a few points of special interest in connexion with the metallic nitrates. I have already pointed out the very marked difference in toxic influence on skeletal muscle between the groups NO_2 and NO_3 when combined with a metal of small physiological activity like sodium. I have shown that whilst nitrite of sodium is a powerful muscle poison the nitrate tends to preserve muscle vitality. The striking contrast between the action of these two salts can only depend on the difference between the physiological properties of the groups NO_2 and NO_3. This difference can be traced in all the metallic compounds of the two groups. The nitroxyl ONO gives evidence of its influence in every compound into which it enters. The nitrate group ONO_2 plays a neutral part and does not seem to interfere with the physiological activity of the metals with which it combines. I have already shown this with regard to the sodium salts and have only to add that in dilute solutions of the nitrates of potassium, barium, calcium and strontium the physiological influence of these metals on the skeletal muscles is as well seen as in the corresponding chlorides. Dilute solutions of nitrate of sodium are as little irritating to the mucous membranes and raw surfaces as they are to muscular tissue. It is commonly thought that the nitrates of potash and soda are irritants; as a fact, however, their solutions when dilute are not more irritating than a solution of sodium chloride of corresponding strength, and their presence in water up to a certain amount prevents the irritation of mucous membranes which water itself causes. A solution containing under 2 per cent. of either chloride or nitrate coming into contact with the Schneiderian membrane, the conjunctiva or raw surfaces gives very little discomfort; if, however, it is left long in contact with a raw surface it gives rise to severe pain and a stronger solution of either salt is at once painful. By the stomach mucous membrane a 10 per cent. solution of sodium nitrate is well borne, but if more concentrated and in considerable quantity it may cause great irritation like other strong saline solutions. The organic nitrates to which I shall allude are glyceryl trinitrate, $C_3H_5(ONO_2)_3$ (nitro-glycerine); ethyl nitrate, $C_2H_5ONO_2$; propyl nitrate, $C_3H_7ONO_2$; isobutyl nitrate, $C_4H_9ONO_2$; and isoamyl nitrate, $C_5H_{11}ONO_2$. In these organic nitrates two effects have to be considered: (1) the actions of the compounds themselves; and (2) that resulting from the products of their decomposition.

Nitro-glycerine.—I shall speak of nitro-glycerine first because of its great therapeutic importance. Professor Hay has shown that nitro-glycerine, in the presence of alkalies and their carbonates or of sodium phosphate, is decomposed, about two-thirds of the ONO_2 being reduced to ONO and uniting with the alkali to form a nitrite; the remaining third forms a nitrate with the alkali. It is even decomposed under some conditions by contact with water. When nitro-glycerine is taken into the stomach it probably undergoes little or no change there, but is absorbed unaltered and quickly converted in part or altogether into sodium nitrite. Any part which is not thus destroyed is excreted by the kidneys, and when large doses are given to animals by the mouth nitro-glycerine has been recovered from the urine and the blood. After large medicinal doses in man it has been detected in the urine. On the skeletal muscles, the vessels and the excised frog's heart dilute solutions of nitro-glycerine act exactly like solutions of sodium nitrite of similar strength. The gastrocnemius of a frog in normal saline containing 1 part in 1000 of nitro-glycerine dies in from twenty to forty minutes, as it would do in the same strength of sodium nitrite, and it gives when contracted a similar muscle tracing. The dilatation of the vessels of the tortoise when weak solution of nitro-glycerine is perfused through them is just as great as with sodium nitrite. Inasmuch as nitro-glycerine is decomposed to some extent in the experiments, nitrite being formed, it is impossible to say how far the effects are due to the nitro-glycerine itself. When given internally the effects of nitro-glycerine are almost identical with those of sodium nitrite, but in a few points the action of the two substances differs somewhat. Nitro-glycerine tends to stimulate the spinal cord and medulla and in the lower animals, especially the frog, may cause tetanic spasms. Sodium nitrite has no such effect. In man the only difference observed, so far as regards the nervous system, between nitro-glycerine and sodium nitrite is that the former much more often causes headache, which, when induced, is at times of longer duration than that caused by sodium nitrite. The throbbing headache felt immediately after the administration of nitro-glycerine may be due to the direct effect on the circulation of the nitrite into which the trinitrate of glyceryl is converted. But at times it lasts for many hours after the circulatory effects have apparently passed away, and it seems possible that the nitro-glycerine headache is not entirely due to the nitrite effect, but that the nitro-glycerine molecule, or it may be certain compounds due to decomposition of the glyceryl, take some part in its production. There can be little doubt that the tetanus produced in the lower animals is due to the nitro-glycerine molecule itself. The difference between the effects produced in the circulation in man by sodium nitrite and nitro-glycerine, though small, is yet of some practical importance. From the table I have shown (see page 5) it will be seen that the action of nitro-glycerine is more rapid than that of sodium nitrite or ethyl nitrite. Not only does the action of nitro-glycerine become distinctly earlier evident than that of the nitrites of sodium and ethyl, but the point of the lowest pulse tension is also earlier, as is shown in the table which I have given. I have not, however, found the influence of a minim of nitro-glycerine usually quite so prolonged as the influence of two grains of nitrite of sodium, but there is no important difference. The minute amount of nitro-glycerine which will affect the pulse is very marvellous. One-sixteenth of a minim of liquor trinitrini will in some instances distinctly lower tension. The effect of small doses is more remarkable when we consider the very large doses which the circulation will bear without suffering injury. Dr. Murrell records that on one occasion he gave a patient ten minims eight times daily, the only effect being to relieve anginal pain and cause some headache. I have only to add the explanation which Professor Hay has given of the more powerful influence of nitro-glycerine than of nitrite of sodium. The glycerine compound is absorbed into the blood and it then forms a nitrite. The sodium nitrite undergoes decomposition by the acids of the stomach, and though the nitrous acid set free is in part absorbed there is naturally considerable loss by escape of the acid vapour and by its decomposition.

The fatty nitrates.—The nitrates of ethyl, propyl, butyl and amyl are all stable bodies very slightly soluble in water and not disagreeable to smell or taste. The boiling-point of the series increases with the molecular weight, nitrate of ethyl boiling at 190° and nitrate of isoamyl at 296° F. Unlike nitro-glycerine, the nitrates of ethyl, propyl, butyl and amyl do not readily decompose even when mixed with an alkaline fluid. When I added 0·2 c.c. of these nitrates to 10 c.c. of a 5 per cent. solution of sodium carbonate and kept the mixture at 38° C. no trace of nitrate could be detected in thirty minutes. On leaving the mixture for several hours the tests indicated the presence of a trace of nitrite, but it was not till six days had elapsed that any considerable quantity of nitrite was present. On adding 2 per cent. of ethyl nitrate to blood, methæmoglobin does not immediately appear, but on keeping the mixture at 38° C. the characteristic band can be detected by the spectroscope in from thirty to forty minutes. The

nitrates of the higher members of the series, isobutyl and amyl, do not under similar conditions show the presence of methæmoglobin for many hours. I have several times dialysed the mixture of nitrates and blood in which methæmoglobin has been produced without detecting the presence of nitrites in the dialysate, though on keeping the compound for from twenty-four to thirty-six hours at 38° C. a nitrite reaction is obtained from it; manifestly, however, the fatty nitrates do not readily yield nitrites as easily as nitro-glycerine does. Although the nitrates seem to be decomposed into nitrites with some little difficulty outside the body it seems probable that in the living body the change takes place more readily, since, as I shall show, an effect on the circulation somewhat like that caused by nitrites is produced by giving the nitrates, but this nitrite effect is less quickly produced and longer-lasting than when nitro-glycerine is given. When a muscle is exposed to a mixture of 1 of ethyl nitrate in 1000 of normal saline solution the contractions diminish in height somewhat more rapidly than with normal saline, but vitality is well maintained and the muscle lives as long as in normal saline; 1 in 500 causes a somewhat rapid fall in the height of the muscular contractions, but a muscle will live in the solution for over three hours. Propyl nitrate diminishes the irritability of muscle more powerfully than ethyl nitrate, but the muscle will continue to live in a solution of 1 in 1000 of normal saline and will give contractions at the end of twenty-four hours. Isobutyl nitrate, of the strength of 1 in 1000, greatly decreases the contractile power of muscle. At the end of about three hours it will only contract, as a rule, with strong stimulation. Amyl nitrate is far more fatal than any of the other nitrates. If the muscle is immersed in 1 in 1000 of amyl nitrate the contractions rapidly fall and the muscle dies in about an hour, contracture being often seen. The relative influence of nitrates, as shown by their action on muscle, bears out the well-known fact that the toxicity of alcoholic radicals increases with their atomic weight. The effect of the fatty nitrates on the vessel walls does not run quite parallel with their effect on skeletal muscles. Ethyl nitrate in the strength of 1 in 1000 dilates the vessels, as is shown in a perfusion experiment with a tortoise. Ethyl nitrate increased the flow through the vessels of a tortoise by 50 per cent., but propyl nitrate in the same amount still more powerfully dilates the vessels, and if a solution of 1 in 5000 be used extraordinary dilatation will take place. (Fig. 20.)

FIG. 20.



As in Fig. 19, the figures at the base represent the number of minutes during which perfusion took place; those in the perpendicular line the number of cubic centimetres passing through the vessels. The light squares show the flow when normal salt solution passed through the vessels; the dark squares when 1 in 1000 of propyl nitrite was used.

I shall point out when I come to speak of nitro substances that with them, too, the propyl compound seems to possess the strongest dilating power. Isobutyl nitrate, in the strength of 1 in 1000 of normal saline, contracts the vessels; but in a strength of from 1 in 5000 to 1 in 10,000 it dilates them very distinctly. Isoamyl nitrate very markedly contracts the vessels in a strength of 1 in 1000 of normal saline, the flow through them being very greatly decreased. Dilute solutions, even 1 in 10,000, do not dilate the vessels, but very weak solutions, 1 in 30,000, have a slightly dilating effect. It is interesting to notice the rise and fall of the dilating influence, due apparently to the alcoholic radicals. Nitrate of ethyl renders the action of the isolated frog's heart slightly quicker and weaker when in the strength of 1 in 1000. The other nitrates have much the same effect as the ethyl compound, but are more toxic. The chief interest in the action of the nitrates centres on the powerful and long-lasting influence they exert on the circulation in man. If five minims of ethyl nitrate be taken internally the pulse tension falls in three or four minutes, but usually not very considerably. It continues to fall and reaches its lowest point in from thirty to sixty minutes; sometimes it is very low for a longer time than this. The effects of ethyl nitrate on the pulse can often be distinctly seen four or five hours after a dose has been taken. (See Fig. 18A, page 6.) As after nitrites, the pulse is somewhat quickened, but this effect is by no means marked. One minim has a distinct effect on the pulse. Propyl, isobutyl and amyl nitrates all act in a similar manner, and as far as I have examined their action they depress the tension for a longer time than the corresponding nitrites. Fig. 18B, page 6, shows the effects of isobutyl nitrate on the man from whom the tracings after amyl nitrite and nitrate were taken. The inhalation of the nitrates very slightly lowers tension. The long-lasting action of the nitrates is doubtless due to the fact that, unlike nitro-glycerine, they are somewhat difficult of decomposition. I have found the nitrate of ethyl useful in various ailments for which nitrites are usually given. There is one drawback to its use. It seems to cause a headache more often than ethyl nitrite; this headache does not always come on immediately the drug is taken; it may not appear for four or five hours. The other nitrates also tend to cause more headache than the corresponding nitrites.

DIAPHRAGMATIC PLEURISY SIMULATING ACUTE ABDOMINAL DISEASE.

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THE symptoms of acute pleurisy are liable to vary according to the anatomical situation of the inflamed surface. In ordinary cases the stabbing pain in the side, which is increased by deep inspiration and by cough, combined with the detection of a friction sound over the affected area, affords unequivocal proof of the nature of the disease. But in those cases where the diaphragmatic surface of the pleura is the site of the lesion the pain is always very severe and is often referred to the hypochondriac region rather than to the side of the chest. The respiratory movements are hurried and are confined almost entirely to the upper part of the thorax, the lower ribs remaining practically motionless. The general aspect of the patient is one of intense distress and the fear of impending dissolution is seldom absent and usually forms one of the most striking features of the case. The temperature is raised to a point considerably above that which accompanies the more ordinary variety of the disorder, and endures for several days. Cough is less constantly encountered, but when present it assumes the same short, jerky, painful character so typical of inflammation of the pleura. The lips are red and dry and not infrequently present a herpetic eruption at their margin. The appetite is completely annulled and retching or vomiting is seldom absent and often proves severe. Owing to the deep situation of the mischief a friction sound is seldom audible in the earlier stages, and a slight deficiency in the vesicular murmur is the only abnormal sound to be detected with the stethoscope. After the lapse of a few days it sometimes happens that the inflammation spreads upwards over the external surface of the pleura, when the development of a rub dispels all doubt as to the nature of the complaint. In the majority of cases, however, the inflamed surface tends to secrete fluid, which, by collecting in the lower part of the pleural cavity, gives rise to comparative dulness on percussion, absence of breath sounds over the affected area and to other signs which denote the existence of pleural effusion. It is obvious, therefore, that in order to arrive at a correct

diagnosis in a case of pleurisy affecting solely the inferior surface of the lung attention must be concentrated upon the history of the onset of the disease and the symptoms of the patient rather than on the discovery of some physical sign. The sudden occurrence of severe pain in the lower part of the chest or hypochondriac region, increased by inspiration or by pressure with the hand; a shallow costal type of respiration, with lack of movement on the part of the diaphragm, severe general symptoms, associated with a total absence of physical signs—all suggest an inflammatory affection of the inferior surface of the pleura.

It is well known that the pain that accompanies acute pleurisy is often referred by the patient to a spot at some distance from the part affected. Thus in many cases the stabbing pain is located over a corresponding area on the opposite side of the chest, the side which is really the seat of the inflammation being apparently free from discomfort. In other instances, again, the pain, instead of being localised to one spot, radiates along one of the intercostal nerves and thus assumes the character of a severe neuralgia. In this manner the chief suffering may be referred to some spot far removed from the actual production of the irritation, and not a few cases of spinal neuralgia, lumbago and lumbar pains have demonstrated their true pathology by the rapid accumulation of serous effusion in one of the pleural cavities. Children are extremely apt to exhibit these aberrant symptoms when attacked with pleurisy, and in one case of which I have the notes acute delirium attended with convulsions and opisthotonos completely masked the true nature of the case and led to the diagnosis of cerebro-spinal meningitis. But perhaps the most interesting variety is that in which the symptoms are almost entirely confined to the abdominal organs and so closely simulate those originating in an acute disorder in this region as to present considerable difficulty of diagnosis. During the last four years five cases have come under my notice, in each of which the severity of the abdominal symptoms appeared to indicate with the utmost certainty the existence of an acute local affection, but which ultimately proved to be entirely dependent upon inflammation of the pleural surface of the diaphragm.

CASE 1.—A gentleman thirty-four years of age was attacked early one morning in the spring of 1890 with severe pain in the right hypochondriac region, which was accompanied by vomiting. When assistance arrived he was found to be reclining over the back of a chair, with an expression which denoted the greatest suffering. The pulse was quick and small, the face pale and anxious, and the skin was hot and covered with sweat, the temperature of the body being 101°. It appeared from the patient's history that when in India several years previously he had suffered severely from dysentery and subsequently from pneumonia, but he had had no attack similar to the present one. He had never suffered from jaundice and there was no history which could be construed in favour of previous colic of biliary origin. On examining the abdomen the superficial muscles were found to be firmly contracted, especially on the right side, and the slightest pressure in the hypochondriac or epigastric regions was attended with great suffering. The respiration was almost entirely costal in character and very shallow, the expiratory effort being audible as a grunt. The liver dulness appeared to extend for about two inches below the costal margin, but tenderness precluded any possibility of palpating the lower border. There were no abnormal signs in the chest beyond such as denoted the existence of some emphysema. The urine was normal in every respect and the bowels regular in their action. During the next twelve hours the patient remained in about the same condition, the temperature ranging to 103°, whilst the pain and vomiting still continued. In view of these facts it was considered probable that the case was one of gall-stones with an inflammatory affection of the gall-bladder. By the use of leeches and opium the pain and vomiting were considerably relieved. No decided alteration, however, took place in the general condition until the third day, when dulness on percussion was discovered at the right base posteriorly. This sign rapidly extended from below upwards and was accompanied by loss of tactile fremitus and deficiency of breath sounds. Coincidently with the development of these physical signs the general symptoms underwent rapid amelioration; the temperature gradually fell and reached the normal on the eleventh day of the disease; the acute pain was replaced by an aching sensation in the hypochondriac region and the vomiting completely subsided. A needle on being introduced into the chest revealed the fact that the effusion was serous in character and quite free from pus. The patient eventually made an excellent recovery.

CASE 2.—A man aged twenty-two was admitted into the London Hospital, under the care of Dr. Samuel Fenwick, for what was supposed to be an attack of perityphlitis. According to the history he had been in perfect health until two days previously, when he had accompanied a boating expedition and had a bathe in the river. A few hours later he was seized with shivering, and during the next hour or so with acute pain in the right iliac fossa. This symptom became exceedingly severe during the course of the next few hours and was greatly exaggerated by constant attempts to vomit. The bowels were confined and great thirst was complained of. On admission the patient was slightly delirious and seemed to be suffering considerable pain. The temperature was 102·4°, the pulse 120 and the respirations 36 per minute. The bowels were stated to have been confined since the onset of the pain; the urine was normal. On examining the affected part it was observed that the right thigh was slightly flexed and forcible extension caused an increase of pain in the iliac region. The wall of the abdomen was very hard and remained entirely motionless during inspiration, the movements of which were entirely carried on by the action of the upper ribs. The pain appeared to be chiefly situated in the right iliac fossa, but also radiated to some degree over the hypogastrium and into the groin. The skin in this region was decidedly hypersensitive and palpation caused intense pain and retching. No tumour could be discovered by examination per rectum, and there was no comparative dulness on percussion over the affected part. There were no abnormal signs to be detected in the chest. During the night acute delirium supervened and a short dry cough was noticed at intervals. On the third day of the disease the temperature was found to be 102° F., the pulse 112, and the respirations 40 per minute. The iliac region was still very tender to the touch, but the other physical signs remained unaltered. On the fourth morning the temperature had fallen to 100° and the patient declared himself to be much better. Examination of the chest revealed a soft friction sound at the right base and the patient admitted that he had experienced some uneasiness in that situation when he inspired deeply or coughed. From this time onward the abdominal symptoms rapidly subsided, the temperature reached the normal point on the fifth day, and the bowels acted readily with a mild purge. The pleuritic condition, on the other hand, pursued its ordinary course, the friction sound gradually extending over the whole side of the chest; whilst comparative dulness on percussion at the base with loss of breath sounds indicated the presence of serous effusion. This proved obstinate of absorption and it was six weeks before the patient was discharged cured.

CASE 3.—A woman aged forty-three suffering from chronic phthisis, under the care of Dr. Reginald Thompson at the Brompton Hospital, was awakened one morning with acute pain in the abdomen. When seen shortly afterwards she was found to be lying upon her back in bed and suffering from constant attacks of retching. The face was very pale and the forehead covered with cold sweat; the pulse was quick and small and the temperature marked 103°. At the right apex the percussion note was comparatively dull as far as the fifth rib, and on auscultation the breath sounds were tubular in character and accompanied with dry, clicking râles; there were also signs of disease at the upper part of the left chest. No abnormal sounds could be detected at the bases. There was no distension of the abdomen, but the superficial muscles were firmly contracted and the slightest pressure with the hand caused great pain. Six hours later the patient still complained of great tenderness over the abdomen; the temperature had risen to 104° and the vomit consisted entirely of bilious fluid. The patient lay on her back with the legs drawn up and complained of an increase of pain when she attempted to extend them. The bowels were confined, although previously to the onset of the acute symptoms they had been rather relaxed. The whole of the abdomen remained immobile during respiration, the breathing being purely costal in character. These symptoms appeared to indicate an acute inflammatory affection of the peritoneum, whilst the fact that the patient was the subject of chronic pulmonary tuberculosis and had suffered for some time from looseness of the bowels suggested the probable perforation of a tuberculous ulcer of the intestine. On the other hand, the absence of collapse—so usual in these cases—raised the question of peritonitis from extension or from an acute infection of the serous membrane by tubercle. The vomiting was relieved by the use of opium,

but all nutriment had to be administered in the form of enemata. The breathing, however, became quicker and more laboured, the pulse increased in rapidity whilst it lost in strength, and the patient became delirious and eventually died of exhaustion about thirty-four hours after the onset of the acute symptoms. The condition of the abdomen remained unaltered till the end, the temperature gradually declining with the approach of death. At the post-mortem examination no signs of peritonitis could be discovered and only a few small ulcers existed in the lower end of the small intestine. The apex of the right lung was extensively diseased and the left was also the seat of tuberculous deposit. The whole of the diaphragmatic surface of the left lung was covered with a layer of recent lymph, the corresponding surface of the diaphragm being similarly affected.

CASE 4.—A boy about thirteen years old was admitted into hospital in March, 1891, with the following history. He had always enjoyed excellent health until the previous evening, when, after returning from a long walk, he was suddenly attacked with severe pain in the stomach, which caused him to vomit and to feel very faint. A few hours after retiring to bed he became delirious and remained in this condition until his admission into hospital on the following afternoon. The temperature was then 102·6°, the pulse full and bounding, 136 per minute, the tongue covered with a thick white fur, and some small herpetic vesicles were visible at the left angle of the mouth. The boy reclined in bed with the knees drawn up and appeared to be suffering considerable pain in the abdomen. The breathing was rapid and shallow and there was an occasional short, dry cough. The abdomen was slightly retracted and its walls were rigid. The chief seat of the pain appeared to be in the umbilical and left lumbar regions, and the slightest pressure with the hand in this neighbourhood called forth an immediate expression of pain. Nothing abnormal could be detected on percussion, and a digital examination of the rectum revealed nothing to excite suspicion. The bowels were stated to have been freely opened at the commencement of the disease, but since then had been confined. No abnormal signs could be detected in the chest. The general aspect of the case suggested the possibility of acute pneumonia; but, on the other hand, the acute onset of the pain, the peculiar abdominal symptoms and the total absence of physical signs all tended to support a diagnosis of acute peritonitis. The pain was relieved by the use of opium and hot applications, but the vomiting proved troublesome and the patient had to be fed by means of enemata. In the evening the delirium, which had previously been active in character, gave way to a condition of stupor, from which the patient could be roused with difficulty. The face was very pale and was covered with a cold sweat; the pulse had decreased in volume and numbered 156 beats a minute; and the respiratory movements were carried on entirely by the upper part of the chest, the diaphragmatic contractions being completely annulled. The cough was very slight and was unaccompanied by expectoration. The temperature, which had remained steadily about 103° during the preceding six hours, now showed an inclination to fall. The condition of the abdomen remained practically unaltered, and no physical signs had developed in the chest. On the following morning the general condition had undergone marked improvement. Toward four o'clock the boy had fallen into a light sleep, and on awakening was free from delirium. The temperature had fallen to 100°, the sickness had subsided and the abdominal pain had considerably diminished. The abdominal walls were still rigid, but there was no distension, and the legs could be extended without much difficulty. On examining the chest slight comparative dulness was detected at the left base posteriorly, and over this area the respiratory sounds were somewhat deficient. From this time onward the patient continued to improve rapidly. The acute tenderness over the abdomen disappeared and the bowels regained their normal condition. The temperature fell to the normal during the course of the next three days, the tongue cleaned and the appetite returned. The evidence of disease at the left base, however, rapidly progressed: the dulness on percussion extended from below upwards until it reached the level of the fourth rib, the apex of the heart approached the right border of the sternum, and the respiratory murmur over the affected area became inaudible. This gradual accumulation of fluid at the base of the left chest cleared up the diagnosis of the case, and little doubt could be entertained that the severe disease which had associated with such obscure abdominal symptoms was in reality one of acute pleurisy attacking the diaphragmatic surface of the left lung.

CASE 5.—A man aged fifty-two, of gouty habit, was attacked one morning in June, 1892, with an aching pain in the right iliac fossa, which was considerably aggravated by a long ride on horseback. After waiting for some days in the hope that the discomfort would wear away he sought medical advice. To all appearances the patient was in the best of health and he had exhibited no symptoms of gout for some years. The temperature was normal, the tongue clean, the bowels regular in their action and, with the exception of a dull, aching pain in the lower part of the right side of the abdomen, there was no complaint. On examining the affected part the patient evinced the greatest reluctance to palpation and the most gentle manipulation was painful. There was no tumour to be detected in the region of the cæcum, and an examination of the rectum gave an equally negative result. No history of renal colic could be elicited and the urine itself was perfectly natural. The pain appeared to be rather superficial and to partake of a neuralgic character, and was aggravated by any attempt to cough. In addition to the signs of pulmonary emphysema a soft rub could be detected at the lower part of the right side of the chest. The absence of any signs of organic disease in the abdomen, coupled with the character of the pain, seemed to negative the supposition of intestinal or renal mischief, whilst the fact that a dry pleurisy was present at the base of the chest on the affected side without the ordinary symptoms of the complaint seemed to justify the view that the abdominal disorder was merely a reflected expression of the pleural inflammation. On this hypothesis the case was treated in the ordinary way and the abdominal symptoms gradually disappeared as the pulmonary signs cleared away.

A rational explanation of the symptoms presented by the foregoing cases is not difficult to find. If one believes that the pain which accompanies an ordinary attack of pleurisy is due to the implication of some of the branches of the intercostal nerves, the phenomenon of general superficial tenderness over the whole of the affected region so frequently encountered in children must be due to reflection along the lateral cutaneous branches of these nerves. It is easy, therefore, to understand that in cases where the site of the inflammation is at the extreme base of the chest painful sensation will be equally readily transmitted along the corresponding branches of the lower intercostal nerves, whose function it is to supply the skin over the greater part of the abdomen, and in the cases alluded to the pain was always found on careful examination to be markedly superficial in character. The rigidity of the walls of the abdomen in these cases probably ensues from the same cause as that which operates when the peritoneum is inflamed, and serves to protect the inflamed diaphragm from any sudden pressure; and since every contraction of the diaphragm would also greatly increase the severity of the pain its movements are annulled and the respiration carried on entirely by means of the costal mechanism. The correct diagnosis of the disease during the earlier stages is often one of considerable difficulty. The acute onset with shivering, fever and vomiting, always suggests the possibility of acute pneumonia, but the comparative absence of dyspnœa and cyanosis, the intensity of the pain and the absence of rusty expectoration and physical signs of the pulmonary complaint are sufficient to negative this supposition. The symptoms of acute abdominal mischief are apparently so overwhelming that the greatest care is requisite before the possibility of local inflammation in one of the viscera can be definitely excluded. It is always noticeable, however, that the pain is more superficial in its character than that usually encountered in cases of true visceral disease, and that it is markedly increased by forced respiratory efforts. No tumour or area of increased resistance can be detected by palpation, and in cases where the disease is seemingly situated in the lower part of the abdominal cavity careful examination of the rectum gives a negative result. There is also no alteration in the percussion note over the affected area, and the administration of an anæsthetic will clear up any uncertainty of diagnosis arising from the rigid condition of the abdominal walls. The fact that in many cases the diagnosis can only be settled by the signs of a serous effusion on one side of the chest suggests a point of the utmost practical importance. In the hurry of everyday practice there is a natural tendency to concentrate the whole attention upon that organ which at first sight appears to be at fault, with the result that in many cases the true nature of the disease escapes notice altogether. The fact that disease in one organ will often throw many others out of gear, and lead to the production of secondary symptoms of sufficient severity to mask the original com-

plaint, is well-known to every student of medicine; but it is wonderful how easily these elementary considerations are forgotten at the very time when their remembrance is most necessary. The gastric symptoms which so usually usher in an attack of pulmonary phthisis would be less frequently diagnosed as simple dyspepsia if a routine practice were to be made of examining the chest in every case; and fewer instances of vomiting in connexion with chronic Bright's disease would be casually classed as "gastric catarrh" if the urine was habitually examined. With regard to the treatment of these cases, a few leeches will often produce more rapid and permanent relief of the severe pain than any other measure.

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THE TREATMENT OF STRICTURE OF THE URETHRA BY ELECTRICITY.

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THE treatment of stricture of the urethra by the application of weak electric currents seems to have lost rather than to have gained in favour during the past few years. The majority of the profession do not practise it; many of those who tried it at first have given it up, partly perhaps on account of the elaborate apparatus required, but chiefly because they did not find in it any great advantage over other methods; a few are still enthusiastic in its support. The statements made about it at first were too favourable and now it is suffering from the natural reaction. The risk is that the pendulum may be allowed to swing back too far and that the method, which has its uses, may be unfairly neglected because it cannot do all that was promised for it by its advocates. My own experience of it, though it extends now over some years, does not embrace a very large number of completed cases, only twenty courses of treatment occurring in eighteen patients; but as special care was taken to define the conditions under which it was tried, the results may, I think, be worth recording. I very soon found that it was no use applying electricity to all cases indiscriminately unless the electrodes were employed as ordinary bougies. Strictures, to say nothing of the patients in whom they occur, differ widely from each other. In some there is a cicatrix, the mucous lining having been destroyed at some spot by suppuration; in others the mucous membrane is intact so far as the surface is concerned, but is thickened, indurated and surrounded by a dense irregular mass of lymph. Not unfrequently both of these conditions are present, and in nearly all the contraction is made infinitely worse, as a rule just at the time when the case presents itself for treatment, by the addition of congestion and muscular spasm. Unless these various elements could be separated from each other and the action of the current tested upon each by itself it seemed to me impossible to say whether any given stricture would be benefited or not. Some strictures as a matter of fact I thought were; others certainly were not; but there was absolutely no means of telling, even after the result was known, why it happened to be good in one and not in another. All such cases therefore had to be excluded and the method tried upon the simplest that could be found, those in which one element only was present, or in which one was so far pre-eminent as to dwarf and reduce into insignificance all the rest. By doing this I hoped to obtain some definite information as to the effect of the treatment and the kind of stricture to which it was suited, and the results arrived at in these cases are the only ones to which I attach any importance.

Simple cicatricial strictures are the easiest to find and to observe. The best examples for the purpose are those that occur at or close to the meatus after chancres. In most instances they are not complicated by spasm, congestion or chronic inflammation; they are nothing but cicatrices pure and simple left by the healing of a suppurating sore. Half of my cases consisted of these and the result was much the same in them all. With a very weak current, not exceeding two or three milliampères, the only effect perceptible after half an hour's trial was a little redness around the meatus. If the strength was increased up to eight or ten milliampères the cicatricial tissue was undoubtedly softened, the surface became moist and sticky, small bubbles of gas made their appearance, the area of redness grew wider and the stricture tissue yielded so much that sometimes after one sitting, sometimes after two or three, a bougie of larger size could be introduced, and in one or two instances this improvement continued and even progressed for some days without anything more being done. The effect, in other words, was closely similar to that which follows the tying in of a catheter, only it was more rapid. In the one case the presence of a foreign body, in the other the passage of an electric current sufficiently strong to cause hydrolytic decomposition in the tissues, set up a certain degree of irritation; mild inflammation followed; the epithelium, which was of very low vitality, melted away in the form of a gleety discharge and the scar tissue became softer under the influence of the hyperæmia and exudation that followed. The final result was the same in all the cases that I succeeded in keeping sufficiently long under observation. If catheters were not passed at frequent intervals recontraction always took place; the hyperæmia subsided, the epithelium was regenerated after a certain amount of soreness and the scar tissue contracted again. In some instances this took place rapidly; in others more slowly, and in one there was a considerable interval before any diminution in size was apparent, but similar differences are not uncommon in connexion with other methods of treating strictures. I could not find that the passage of a weak electric current for half an hour on some half a dozen or perhaps a dozen occasions, with intervals of several days between, effected any change in the character of the scar.

The result was equally unsatisfactory in a case of traumatic stricture of the œsophagus following the swallowing of nitric acid in which I tried an electric current before proceeding to gastrostomy. There was for a time a slight increase in the diameter, but it was not sufficient to be of any real use to the patient, and slight as it was it could not be maintained without continual instrumentation.

Strictures that result from chronic inflammation only, in which there has never been any breach of the mucous surface, are more difficult to find, or at least to prove. They lie as a rule further down the urethra; an endoscope is required to see them; it is necessary to trust almost altogether to the history of the case; and there is nearly always a certain amount of congestion and muscular spasm. I have, however, notes of seven cases of stricture in which it may be reasonably assumed that this was the chief if not the only cause. Their development was too slow for them to have been caused by the contraction of a scar; years had passed since the last attack of gonorrhœa without any reduction in the size of the stream having been noticed; gleet had lasted for a long period in them all, and their progress except towards the end had been of the slowest. Some could not be felt from the outside, and were therefore probably limited to the urethra; others involved the peri-urethral structures as well. Muscular spasm and congestion were present in all more or less, and in most were the immediate cause of the patients applying for relief; but these additional elements were got rid of as far as possible before commencing the treatment by keeping the patients in bed, upon low diet and keeping the bowels open.

I am inclined to think that these strictures were benefited to some extent by the electricity. The current was not allowed to exceed five milliampères for fear of injuring the epithelium, which in such cases is usually thin and wasted, and consequently there was very little gleet or soreness afterwards. Under its influence the stricture tissue appeared to soften and yield more rapidly than it usually does under dilatation alone. In two instances the passage was so narrow when the treatment was commenced that the electrode could only rest upon the face of the obstruction, without penetrating it, and here at least the current should have full credit. In the other cases the electrode could be introduced into the stricture and the effect therefore was partly mechanical, as when an ordinary bougie is employed; but even in these, though the number is too small to form a positive conclusion, it was my impression that the stricture tissue softened and yielded with more rapidity than usual. I am bound to admit that I had rather expected this result. I fully anticipated that the hyperæmia caused by the prolonged application of a weak electric current would soften the dense tissue around the urethra for a time, and this may have influenced me in coming to this conclusion. Having said this in its favour I have, I think, said all that I can. The stricture tissue is softened but the obstruction is not removed, and when the current

ceases and the hyperæmia subsides, unless other methods are employed to maintain the advantage that has been gained, the lymph contracts again and becomes as firm and hard as it was before. I could not find any evidence that a weak electric current by itself, without the assistance of mechanical dilatation, was able to disperse indurated tissues or remove the obstruction which keeps up the inflammation and makes the stricture grow steadily worse. All that it does is to cause during the time that it is being applied, and perhaps for a short period afterwards, an increase in the amount of blood circulating through the part and in the amount of lymph that transudes through the walls of the vessels. Under the influence of this the stricture tissue temporarily becomes more lax. When the application ceases, or very soon afterwards, the effect ceases too and the tissues resume their former character. Electricity will succeed if thorough dilatation or division is practised at the same time; the urethra then is given a sufficiently long period of perfect physiological rest, and absorption becomes possible; but without one or other of these the effect that it produces is only transient. Of the influence of electricity upon the other two elements that enter into the formation of stricture—muscular spasm and congestion—I have very little to say. I found only three examples sufficiently well marked to make the experiment worth trying, and in these the difficulty arose almost entirely from spasm, the amount of congestion being very slight. A weak current was used in the ordinary way, with the negative electrode in the urethra, and the resistance certainly yielded before it; but how far this was due to the electricity and how far to the steady pressure of the instrument tiring the muscle out it is impossible to say. My own impression is that the latter was quite as important as the former, and I could not persuade myself that in cases such as these electricity possessed any material advantage over other methods that have been well known and well tried for years. It is certainly more cumbersome, and though the number of cases in which electricity was used is too small to form a definite opinion it does not appear to be more effective than the ordinary methods of treatment.

So far, then, as one is justified in drawing conclusions from such a limited number of cases my experience is in thorough agreement with the general impression as to the value of the constant current in the treatment of stricture. In certain instances—those, for example, in which there is an indurated mass involving the urethra, with a very narrow and perhaps tortuous channel through it—electricity may be of some use; it assists in softening the dense tissue and so renders more easy the application of more effective methods, and it may perhaps relieve muscular spasm to some extent. I have not been able to find any proof that it is capable of doing more than this.

Wimpole-street, W.

A SMALL SLOUGH AT THE OS INTERNUM CAUSING SECONDARY HÆMORRHAGE SEPTICÆMIA AND DEATH ON THE FIFTEENTH DAY.

BY W. C. GRIGG, M.D. EDIN., M.R.C.S. &c.,
PHYSICIAN TO IN-PATIENTS, QUEEN CHARLOTTE'S LYING-IN HOSPITAL.

A WOMAN aged thirty-one (first pregnancy) was delivered of twins in Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W., on Feb. 4th, 1893. She was admitted two days previously, on Feb. 2nd, with the membranes already ruptured. Twin pregnancy was easily diagnosed, the first child presenting a foot and the second lying obliquely across the uterus. The abdomen was pendulous and pregnancy had advanced to term. The patient passed through a very protracted first stage, owing partly to the feeble and infrequent character of the pains and partly to cervical rigidity. After forty-eight hours progress became more rapid and it was soon possible to reach the foot and pull down a leg; there was a little difficulty in drawing down the knee through the cervix. An hour and a half afterwards the cervix was fully dilated and the first child delivered, some considerable traction being required to deliver the breech, as the child was large in comparison with the limited vaginal capacity. The shoulders and head followed without difficulty. The second child presented by the head, and after rupturing the membranes a large loop of the cord and a hand became prolapsed. These were returned and the head delivered with the axis-traction forceps. Both children were still-born and although the first lived for three to four hours respiration was never properly established. The first was a male weighing 6 lbs. 14 oz., the second a female weighing 7 lbs. 1 oz. There were two separate placentæ, with distinct membranes; one, being partly adherent, was peeled off the uterine wall with the fingers. The perineum was ruptured to the first degree, requiring one suture, and there was some contusion of the inner aspect of the labia. The pelvic measurements were normal. The patient did well until the fourth day, when the temperature rose to 103° and the lochia became a little offensive. The following morning she passed a large mass of dark offensive blood-clot, and one or two smaller clots subsequently. The intra-uterine douche was used (2 oz. of a 1 in 2000 corrosive sublimate solution, followed by 4 oz. of a 1 in 40 boracic acid solution being employed), a hypodermic injection of two grains of ergotin administered, and the dose repeated in a few hours. On the morning of the sixth day she had a profuse flooding of bright arterial blood, soaking the bed; after clearing the vagina of clots the hæmorrhage was found to have ceased, but a hot intra-uterine douche was again given and followed up by a hypodermic injection of ergotine. Two hours later she had a rigor of great severity, the temperature running up rapidly to 106·6° in the axilla and the constitutional disturbance being very profound. The lochial discharge at this time was free and offensive. The following day no rigor occurred, the highest temperature recorded being 103·6°, and the intra-uterine douche was for the third time used. On the eighth day another severe rigor occurred, the temperature rising to 107°; there were no signs of peritonitis, and the uterus was quite movable and not tender. Thereafter the patient developed general symptoms of great gravity and sinking gradually into a typhoid state she died on the fifteenth day after delivery. The temperature showed wide oscillations, the extreme limits being 107° and 97°. On the twelfth day pain and pleuritic friction developed in the left inframammary and axillary regions and respirations increased to between 40 and 50 per minute. The following day the friction disappeared, but there were no definite signs of effusion or consolidation of the lung. The urine remained free from albumen until the eleventh day and at no time contained more than a trace. The lochia were scanty and odourless for several days before death. The necropsy was made by Dr. Hebb, who reports as follows: "No signs of peritonitis, but some excess of clear fluid in peritoneal sac. The uterus lies in the pelvis and is freely movable; it is somewhat boggy to the touch. The pre-sacral cellular tissue is thickened towards the right half of the sacrum by inflammatory infiltration; the vessels therein are large and some are full of pus. The cavity of the uterus measures about five and a half inches. On cutting it open it is seen that there are two placental sites, one on the anterior and one on the posterior aspect near the fundus; they are quite distinct and the vessels therein are plugged with firm clot. The cervical mucosa is ragged and uneven, and on the posterior aspect at the os internum and in the middle line is a circular aperture a little smaller than a threepenny piece. The hole is in immediate apposition with the inflammatory thickening in front of the sacrum. The uterine mucosa is of a slaty-green colour and bathed in a semi-purulent odourless discharge. The Fallopian tubes and ovaries are quite normal."

In the light of the post-mortem conditions the etiology of the mischief is clear. A small slough was formed at the os internum, probably from prolonged pressure by the knee of the first child during the protracted first stage, and the evil effects of this pressure were doubtless greatly increased by the absence of the protection afforded by the bag of membranes. The initial rise of temperature on the fourth day indicates the maturation and separation of the slough. The hæmorrhage which occurred shows that the slough extended so far as to involve the wall of the circular artery of the cervix, running round the cervix at this level, thus leading to the arterial flooding on the sixth day. The vessels laid open immediately became channels for absorption of the lochia trickling over them from the uterine cavity, and the first rigor occurred in two hours after the flooding. To prevent this absorption continuing was of course impossible, and the patient became poisoned by septic matter carried directly into the circulation.

As regards the management of the case I certainly think that it was a mistake to allow the patient to remain so long

in the first stage after rupture of the membranes and that early dilatation of the cervix by means of Barnes' dilators might have averted the damage to the cervix which was the sole and direct cause of the fatal result.

Curzon-street, Mayfair, W.

SOME POINTS OF PRACTICAL IMPORTANCE IN THE USE OF CURVED SKIN INCISIONS.

BY PEYTON T. B. BEALE, F.R.C.S.ENG.,
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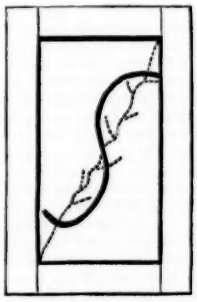
ON reading the descriptions of operations in the text-books and journals one is struck by the apparent indifference displayed as to the form of skin incision to be employed, whether curved, straight &c., and I have been much interested in watching the ultimate result of any particular operation performed by various surgeons under practically the same conditions and by the use of different forms of skin incisions. I hope to be able in this paper to investigate the reasons for the adoption of any one special form of incision and to demonstrate the particular advantages of curved incisions wherever these are possible. It used frequently to be said that as small an incision should be made as is compatible with the removal of the disease or the proper exposure of the part to be operated upon, because the smaller the wound the less is the amount of shock, the quicker is the process of repair and the less chance there is of the entrance of septic or other organisms from without. But it must be admitted that the tendency is generally to make too small an incision at first, which leads to great disturbance of the edges of the wound and of the parts beneath in order to give sufficient room for the completion of the operation, and only too often, as the operation proceeds, the wound has to be enlarged, valuable time has been spent in trying to reach the parts beneath and unnecessary bruising of the tissues has resulted. In making a curved incision, of course, a greater amount of skin is divided, but there is no evidence to show that a few inches one way or the other increases the shock or severity of the operation, and in these days the entrance of organisms can be prevented by the proper cleansing of the skin in the first place, by irrigation during operation and by the use of aseptic and antiseptic dressings afterwards. There are some situations where a curved incision is now almost universally used—for example, the scalp, since it gives rise to less hæmorrhage, the vessels divided being smaller and tending to retract more than when a straight incision is employed. Moreover, the bone beneath is more fully and more quickly exposed for subsequent treatment. This form of incision is also applicable, for the former reason, to other situations where one or two fairly large arteries rapidly break up into smaller branches. I will give a very few examples from amongst the many situations where, for these and other reasons, a curved incision is preferable to a straight one. In dissecting out varicose veins in the thigh or leg I have always made a curved incision, and when excising a long portion of vein, in those cases where the proceeding is essential, one shaped thus, the position of the vein being indicated by the dotted line. The convex flaps of skin and subcutaneous tissue are dissected up to their bases and then a piece of thick silk is threaded through the convex margin. In this way the flap can be held to one side and by traction the hæmorrhage at its edge can be practically stopped. The vein is also fully exposed and it and most of its branches can be easily ligatured and removed. When a straight incision has been used for this operation it is often observed that primary union does not occur along the whole of the wound. This I believe to be very often due to the edges of the skin having been pulled about with forceps and continually rubbed and irritated during the operation by the use of blunt hooks or retractors; Professor Rose has advised the use of the fingers only to hold up the edges of the skin. If a curved incision be made and the flap be held back as described the edges of the skin need not be even touched until they are sutured together, and I have been very much struck with the rapid and perfect primary union which has occurred and with the freedom from pain afterwards due to the cicatrix being well away from the site of the vein. In the operation for wiring fractured patella or for excising the bursa in front of the ligamentum patellæ a curved incision, convex downwards, its apex being just above the tubercle of the tibia, is most satisfactory, as the flap so formed can be lifted up and fixed with a stitch and the operation proceeded with; the resulting scar is thus well below the knee and escapes pressure subsequently. In removing tubercular glands where the skin is slightly or not at all affected it appears to me most useful to dissect up a flap of skin, for the skin incision then is quite away from the disease and there is little risk of the edges becoming infected, as so often happens, and if a drainage-tube is to be used it can be placed with advantage at one or other extremity of the incision. Again, in some cases of acute abscess it is most valuable to be able to make the skin incision in healthy skin around the abscess and evacuate



the pus through it. I think it is very doubtful whether the inflamed skin ought to be incised in these cases, for skin in that condition is not well able to resist the entrance of organisms, and, as a matter of fact, does often become infected, thus preventing primary union and often leading to a little sloughing of the edges and further trouble.

I will now give a few reasons for preferring a curved to a straight incision wherever the former is practicable: 1. It heals more rapidly and for these reasons: there is really only one edge of the wound, that belonging to the flap, that is movable, the other edge being still adherent to the subjacent tissue; moreover, the flap having been stitched to the neighbouring skin or held well away from the seat of operation, both edges of the wound are quite uninjured by the time the sutures are inserted. 2. The resulting scar is smaller, though this is only of importance in certain parts, for the skin may be incised obliquely in making a curved incision, so that the epidermis on the edge of the flap is slightly in advance of the true skin. 3. It fully exposes the part to be operated upon, assuming that the base of the flap is twice or three times its length, and gives the operator plenty of room in which to work. 4. Suturing the edges is easier than in the case of a straight incision, especially if the skin be pricked in one or two situations exactly opposite to one another before the incision is made, and often the curved wound is adapted to the shape of the part better than a straight one. 5. The resulting cicatrix is not over the seat of operation. 6. Drainage is often most perfect by inserting a tube through an incision in the base or some part of the flap, thus giving no hindrance to the primary union of the incision and preventing any possible discharge from infecting the edges. 7. Incision through inflamed or diseased skin may be avoided and yet the disease be easily reached. 8. There need be no tension on the edges of the wound, as a flap of skin is, so to speak, loose, and if there is fear of tension a thick silk suture may be passed through the base or some part of the flap and out again, and then through the skin on the other side of the incision and there fixed, thus avoiding a long suture beneath either edge of the wound. I think that the form of skin incision, its subsequent result to the patient, and its immediate results to the surgeon during the progress of an operation are matters too often neglected and not sufficiently considered before the operation is undertaken, and I feel sure that there are many points of interest connected with the subject.

Grosvenor-street, W.

CARCINOMA RECTI; RIGHT INGUINAL COLOTOMY.

BY ALFRED COOPER, F.R.C.S. ENG. &c.,
SENIOR SURGEON TO ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM.

A BOOKBINDER aged fifty-six was admitted into St. Mark's Hospital for Fistula and other Diseases of the Rectum on Nov. 12th, 1892, suffering from malignant disease of the rectum. There was no history of cancer or rectal disease in the patient's family. He had enjoyed good health until four months before admission. He had had measles and whooping-cough when a child, but no severe illness since. He had not suffered from any previous rectal trouble, such as hæmorrhoids or fistula. The bowels had been regular all his life. There was no history of previous abdominal inflammation. About four months ago the patient noticed for the first time a constant desire to evacuate the contents of his rectum, this being the first symptom of rectal discomfort that he complained of. Since then the motions had always been very relaxed; he had not had a formed motion for the previous sixteen weeks. Two months after the first onset of these symptoms he noticed when at stool that his motion was streaked with blood of a bright-red colour. Since then he had continually passed blood when his bowels had acted, but not to any great extent. He had felt little or no pain in the rectum, the only discomfort being the constant desire to go to stool, and even when his bowels acted this feeling did not pass off. He occasionally complained of pains shooting down both thighs. As he was continually losing blood and could not obtain any relief from the constant desire to defecate he was advised to attend St. Mark's Hospital, where he was found to be suffering from carcinoma. On admission the heart and lungs were normal, and the urine was acid, clear, of sp. gr. 1020, and containing no albumen. On rectal examination advanced malignant disease was found, starting two inches above the anus. Its upper limit could not be determined as the finger could not reach above it. The growth had already invaded the surrounding tissues. On Nov. 22nd, the patient having been placed under the influence of chloroform, I made the usual incision for left inguinal colotomy, my colleague, Mr. Swinford Edwards, assisting me. Having opened the peritoneal cavity, a search was made for the sigmoid colon, but in vain, nor were Messrs. Goodsall and Edwards more fortunate in their attempts. There was clearly a malposition of the gut, so on Mr. Goodsall's recommendation it was determined to close the wound and to perform the operation on the right side with a view of opening the cæcum, or perhaps even the sigmoid, for it has been known to take up this position when it has failed to occupy its own. This having been done, the gut was found lying over the cæcum and firmly fixed there, so that it could not be drawn out of the wound. This being the case, the mesenteric suture was omitted, the bowel being simply stitched to the united skin and peritoneal edges by several sutures. The patient was then ordered to have a pint of milk during the next twenty-four hours.

Nov. 23rd.—The patient slept fairly well during the night; he has had no sickness; he took his milk well. The temperature is 97·4°; the pulse is 68, regular. He states that he has a feeling of discomfort all over the abdomen, but not actual pain; he seems very bright and in good spirits. Evening: He has had a very good day. The temperature is now 98·8°; the abdominal discomfort is much less.

24th.—He passed a very good night. He has had a pint of milk and half a pint of beef-tea within the last twenty-four hours; there has been no sickness or pain. The temperature is 98·2°; the pulse is 64, regular. The dressings over the right wound were removed by the house surgeon, Mr. Ryall, and, the gut being distended, he incised it with scissors, whereupon fluid fæces and a quantity of gas escaped. Evening: The bowels have freely acted through the colotomy wound, the fæces that passed being still fluid. The patient has had a very good day. The temperature is 98·4°.

25th.—He slept well during the night; there is no pain or sickness. The bowels have been freely relieved through the colotomy wound, the fæces being still liquid. The temperature is 98·4°; pulse 60.

The patient made daily progress towards recovery without a bad symptom of any kind, the sutures being removed from the right colotomy wound on Nov. 27th, and from the left, which had healed, on Nov. 29th. On Dec. 8th a right inguinal colotomy truss was applied and he was discharged from the hospital much relieved on Dec. 10th, eighteen days after the operation.

Remarks.—It has been thought worth while to record this case as an example of a somewhat rare condition occasionally met with in performing inguinal colotomy and also as showing what seems to be the best way of dealing with it. On finding the large intestine on the right side it was easy, of course, to recognise it, but less so to determine whether it was the mal-placed sigmoid or the cæcum. Time alone solved this question. Although the evacuations were always fluid when in hospital, looking as though it was the cæcum which had been opened, they soon became more firm and formed, which would not have been the case had it been the beginning of the large intestine. Mr. Swinford Edwards saw the patient last on Jan. 4th, 1893, when he appeared very comfortable, though he complained a little of his rectum and of the annoyance caused by a small amount of fæces passing that way. This was unavoidable, because, as mentioned above, the gut being tightly held down, it was impossible to form a spur by means of a deep or mesenteric suture, a proceeding most necessary to ensure the full benefits of the operation. He was passing well-formed and solid motions through the artificial anus. It should be mentioned that excision of the rectum in this case was contraindicated, not only on account of the height to which the growth extended, but more especially seeing that the disease had already to some extent involved the surrounding structures.

Henrietta-street, W.

ICE IN THE TREATMENT OF ACUTE PNEUMONIA.

A COLLECTIVE REPORT.

BY THOMAS J. MAYS, M.D.,
PROFESSOR OF DISEASES OF THE CHEST IN THE PHILADELPHIA POLYCLINIC, VISITING PHYSICIAN TO THE RUSH HOSPITAL FOR CONSUMPTIVES ETC.

WHATEVER its nature may be, it is quite certain that no other disease has elicited a greater number of conflicting opinions concerning its treatment than has croupous pneumonia. Forty years ago bleeding and blistering were regarded as its specifics; but these are now, and for the last twenty years have been, scarcely thought of in this connexion. In the meantime hot poultices, aconite, veratrum viride, digitalis, quinine &c., have taken their places, yet it is not too much to say that they have all led to disappointment and come to grief in the retort of clinical experience, and that finally the profession has gravitated to the conviction that the disease is self limited in duration, and that hence all efforts to control its course are fruitless, if not actually harmful. To be thus compelled to stand before a disease and acknowledge one's helplessness and impotency is, to say the least, an unenviable position, but I must confess that until I became familiar with the value of local cold applications in this disease I was in hearty accord with this idea. Since then I may say that I am able to approach a case of pneumonia with a greater degree of assurance—not with the feeling, however, that we possess a specific, but with the confidence that here is an agent with which we are able to impress and circumvent the severity of the pneumonic process. I believe that cold properly applied will affect the death-rate of pneumonia as profoundly as it has affected that of typhoid fever, and, although I do not expect a rapid introduction of this measure, on account of a deep-rooted prejudice which exists against the use of cold in almost all internal diseases, I trust that the evidence which is herewith submitted will serve to commend it to the serious attention of the profession. Under the titles, "Can Croupous Pneumonia be Abated?" and "Ice in the Treatment of Croupous Pneumonia," I contributed two papers to the *Medical News* of Sept. 24th, 1892, and Jan. 21st, 1893, respectively, in which are related three cases of pneumonia which were treated principally with applications of ice to the chest; and since the appearance of the first paper I instituted a collective investigation on a small scale by sending a number of circulars[1] to various

[1] Similar circulars will be cheerfully sent by me to any one who may apply for them.

members of the profession, inviting a trial of the ice treatment.

The histories of the fifty cases which have been brought under my notice open up many points of interest in the discussion of the influence of ice in the treatment of acute pneumonia, and as pertinent to this subject I will append the following comments:

The resolving power of ice on the exudation.—This is a marked feature in its therapeutic action and must be regarded as one of the strongest factors in its curative influence. This can at least be partly explained on the following basis: The most apparent lesion in croupous pneumonia is an enormous distension of the pulmonary capillaries, partial or complete stasis of the blood in these vessels, and exudation of the fluid constituents of the blood, and diapedesis of white and red blood-cells into the alveoli of the lung. It is well known that cold has the power of contracting the blood-vessels, and from this action one can understand why it should exert a beneficial action on pneumonia by giving tone to the capillaries, by restoring the normal blood flow and thus checking the leakage. But there is often reason for believing that it also dissolves the exudation in the pulmonary alveoli. For example, there may be a pneumonic area in which there is absence of respiratory murmur, the presence of a flat percussion note and bronchial breathing indicating beyond doubt that the process has passed beyond the stage of engorgement and into that in which the exudation has filled the alveoli, yet the application of ice will, in a remarkably short time develop a new group of physical signs, such as crepitation, reappearance of the respiratory murmur, diminution of flatness &c., indicating that a break-down has occurred in the exudation. This has not only been observed by myself, but is dwelt on by Dr. Lees, who says[2]: "In many cases I noticed a striking arrest in the development of the physical signs," and that the ice-bag "distinctly tends to repress the inflammatory process in the lung."

Influence on symptoms.—Not less decided is the influence of the ice on some of the most prominent symptoms of pneumonia. The pain, difficult respiration, cough and expectoration are remarkably relieved, and the temperature is frequently depressed two and three degrees in the course of half a day. The benefit which is exerted on these symptoms products a very agreeable effect, and often makes the ice acceptable to those who at first protest against its use. This I have noticed in most of my cases, and it has also been witnessed by others, as will be seen in the histories of the cases which have been reported to me.

Is the ice injurious?—My own rather limited experience with the ice treatment does not show that it is accompanied or followed by any evil consequences, nor have any of those who reported cases to me observed any such results, although some of them kept the ice in position for two weeks. Dr. Lees says[3]: "I have never seen any harm follow from the employment of the ice-bag in pneumonia."

Ages of patients.—It is important to note in this collection that the ages of the patients to whom the ice was applied varied from infancy to old age—the youngest being six months and a half old and the three oldest were sixty, sixty-five and seventy-four years respectively.

The results.—It may be said, without claiming too much, that the results which have been obtained from the ice treatment of pneumonia are good. Out of the fifty cases which I collected but two were fatal, making a death-rate of 4 per cent. In estimating this mortality rate it must be remembered that at least one of the cases that died was an exceedingly unpromising one, being a sufferer from chronic lead poisoning and also very intemperate; whilst the pneumonia which caused the death of the other one was in all probability an acute exacerbation of an old attack. In Dr. Lees' series of eighteen cases no deaths occurred, nor did any occur in the eleven cases reported by Dr. Jackson. Moreover, THE LANCET[4] refers to an article by Dr. Fieandt, published in *Duodecim*, a Finnish medical journal (an original copy of which I am unable to procure), in which there is an account of 106 cases of pneumonia treated with ice applications by that gentleman, and, notwithstanding that amongst these there were ten cases of double pneumonia and that the epidemic of the disease was rather severe, he only had three deaths, or a death-rate of 2 82 per cent. Adding these cases to those reported in my collection, there is a total of 156 cases of pneumonia treated with cold applications to the chest, with five deaths, or a derth-rate of 3 20 per cent.. Whilst the number of cases reported here is not very large, it is nevertheless evident that the results of the ice treatment are much superior to any other with which I am familiar. Thus, according to Osler, the mortality rate of 1012 cases in the Montreal General Hospital was 20 per cent., whilst in the Charity Hospital at New Orleans it was 20·01 per cent. Of 1000 cases of pneumonia treated in the Massachusetts General Hospital, from 1822 to 1889, there was a mortality of 25 per cent. In Dr. Hartshorne's valuable paper on Pneumonia it is estimated that the death-rate from this disease in the Pennsylvania Hospital during the years 1884, 1885 and 1886 was a little more than 31 per cent. In comparing the results of the ice treatment, so far as they go, with those which have been obtained from the treatment pursued in the above-mentioned hospitals, I find that they are about eight times better under the former than under the latter method of treatment. It will be of great interest to see whether these satisfactory results can be maintained by future clinical investigation, and if this can be done even approximately it is needless to say that a pronounced advance in the therapeutics of acute pneumonia will have been made.

[2] THE LANCET, Nov. 2nd, 1889. [3] THE LANCET, Nov. 2nd, 1889.
[4] Aug. 10th, 1892, p. 279.

THREE CASES OF PUERPERAL ECLAMPSIA (TWO IN SISTERS).

BY JOHN STEWART, M.B., C.M. GLAS.

DR. MARRIOTT'S interesting paper in THE LANCET of Jan. 28th of this year bears strongly upon the cases given below. Curiously enough they all occurred within the past twelve months and the treatment adopted resembled his almost entirely. It must be a rare occurrence for a medical practitioner to attend sisters alike affected with this disorder.

CASE 1.—On June 29th, 1892, a married woman was seven months pregnant with her fifth child. She, without warning, fell into a convulsion. When visited she was suffering from severe and closely recurrent eclamptic attacks, had passed no urine for three days and had suffered from headache and sickness. Her legs, arms and face were markedly œdematous. The usual remedies were first tried. Two minims of croton oil were applied to the back of the tongue. She was put into a hot pack and one-third grain of pilocarpine was administered hypodermically. An enema of one drachm of bromide of potassium was given, but without any apparent success. Dr. Alfred Swann kindly saw the case at this stage and we decided to empty the uterus. The os was partially dilated by a Duke's dilator and completely dilated without difficulty by the fingers. Turning was also effected without difficulty. The eclampsia continued for four hours, then gradually ceased and the patient remained unconscious for twelve hours more. The further progress was uninterruptedly favourable with the exception of headache, which persisted for some weeks. This was always relieved by a powder consisting of five grains of antifebrin with two grains of citrate of caffeine. The patient is now well.

CASE 2.—A married woman, aged twenty-four, primipara, was seized at a meeting on Nov. 11th, 1891, with severe epileptiform convulsions. She was removed home and inquiry elicited that she was six months pregnant and had suffered lately from severe headaches, sickness, vomiting and great swelling of the legs. She had not thought it advisable to consult anyone and ascribed these symptoms to pregnancy. She had for the previous few weeks passed little urine, and for the two days previously to the seizure hardly any. On examination there were found evident signs of severe abdominal distension. The urine drawn off contained fully one-half albumen (proportion of coagulin to urine), was highly coloured and of high specific gravity (1025). As the seizures were very severe and almost continuous, chloroform was at once administered, and so long as the patient was kept in a state of anæsthesia this seemed to ward them off. When the anæsthetic was discontinued the seizures immediately returned. The remedies adopted in Case 1 had no effect, and it was decided to empty the uterus. On examination the os was found firmly closed, and there was no attempt at uterine contraction. The os was dilated by a Duke's dilator sufficiently to admit a gum-elastic bougie, which was passed into the uterus between the membranes

and uterine wall. Three laminaria tents were passed into the os alongside the bougie, and the whole was fixed in position by packing the vagina with boracic wool. Chloroform was in the meantime administered to modify the seizures, which recurred every fifteen or twenty minutes. After eight hours uterine contraction commenced, and twelve hours after passing the bougie turning was accomplished. Coma persisted for three days, after which the progress was uninterrupted. This woman has perfectly recovered and has resumed her domestic duties.

CASE 3.—A married woman aged twenty-one, primipara (sister to the patient in Case 2), consulted me early in September for headaches accompanied by vomiting. She was then about six months pregnant, and these symptoms had gradually increased since the third month. Œdema was most striking in the legs and the arms. Profiting by her sister's experience, she thought things were not going on as they should. The urine contained one half albumen. On Sept. 25th she had been kept in bed for a fortnight and under liq. glonoin in gradually increasing doses had lost all pain and headache. The urine was almost normal when examined. On the 28th she got up without permission and went out. In the evening at 10 P.M. she had a convulsion, and when seen half an hour later the only abnormal condition was a wild delirium. During my visit she had another seizure, which was only slight and lasted for about two minutes. In spite of the application of the milder remedies as adopted in Case 1, the convulsions persisted and it was determined to try dilatation of the os uteri and separation of the membranes round the lower part of the uterus. A Duke's dilator was again used and three tangle tents were inserted. After eight hours, and whilst the tents were *in situ*, the seizures ceased. The tents were removed, the membranes were separated with the fingers as far as could be reached within the uterus and the case was left. There was no recurrence for a fortnight. The patient then persisted in getting up, the seizures returned in a much more severe form and it was agreed to empty the uterus. The os was still partially dilated and no difficulty was encountered in turning. The patient was conscious in two days and is now well.

Puerperal eclampsia is one of the most trying conditions a general practitioner has to encounter, and I am convinced, after a fair experience, that the best treatment, except in very mild cases, is to get rid of the contents of the uterus. There is a remarkable similarity between the treatment adopted by Dr. Marriott and my own. Indeed, but for this similarity, which struck me forcibly in reading his cases, I question whether I should have ventured to submit the account of these three cases to the readers of THE LANCET.

Hanover-street, Batley, Yorks.

COMPOUND DISLOCATION OF THE ELBOW-JOINT:

RECOVERY WITH UNIMPAIRED MOVEMENTS OF JOINT.

BY CHAUNCY PUZEY, L.R.C.P. LOND., M.R.C.S. ENG.,
SURGEON TO THE NORTHERN HOSPITAL, LIVERPOOL.

DISLOCATIONS of the elbow-joint are not uncommon in children, but a compound dislocation is comparatively rare; and in the following case there are some interesting features. One evening in March, 1892, I was requested by a medical friend practising in one of the suburbs of Liverpool to see one of his sons aged nine years, who had sustained a compound dislocation of his right elbow-joint. His father had immediately before been engaged in a post-mortem examination, and thought that it was advisable not to handle the limb himself; he therefore merely covered the wound with wet carbolised dressings and sent for me. The position of the wound was (according to my experience) so unusual that I think the case is worth recording. The sharp trochlear portion of the lower end of the humerus had penetrated the soft parts in front of the joint, and, with the inner condyle, appeared on the front of the upper part of the forearm, tightly embraced by the skin through which it had burst. The forearm was considerably shortened by the backward displacement of its bones, and the elbow was kept fixed about halfway between extension and a right angle. The hand and lower part of the forearm were dusky in hue and the radial pulsation at the wrist was barely perceptible. The boy having been put under the influence of chloroform by his father, I was enabled to examine the parts fully, and there was no doubt as to there being complete displacement backwards of the ulna and radius, but there was no fracture or separation of the epiphysis. I attempted to reduce the displacement in the usual manner, but failed. Having enlarged the wound in the integuments I again tried, but the protruding bone was evidently caught by something more deeply situated. I then insinuated a broad director between the protruding bone and some deep constricting band (probably of bicipital fascia), and then using it as a lever, and at the same time performing the usual manœuvre for the reduction of such dislocations, the bones slipped quickly and easily into position, it being evident that everything was satisfactorily in its place. The wound, which was of course deep, was filled with powdered iodoform and boracic acid, and after a small drainage-tube had been inserted the skin wound made by the knife was brought together by one suture. A small quantity of gauze soaked in carbolic glycerine was laid over the wound and a plentiful supply of dry salicylic wool was bandaged around the elbow, which was kept at a right angle on an angular felt splint. The next day the dressings, which were slightly blood-stained, were changed. On the fifth day the drainage-tube was removed. At the end of the week the wound was soundly healed and the splint was left off, but the elbow was still kept surrounded with wool and supported by a figure-of-8 bandage, the forearm being suspended in a sling. In the course of two or three days passive movement of the joint was commenced. From this time the progress of the case was perfectly satisfactory and without incident. Some time ago, in reply to a letter, the boy's father wrote to me: "The arm is as good now as ever it was, all movements possible in an elbow being perfect. Indeed, all anxiety as to the future of the arm with regard to movement was dismissed at the end of six weeks."

In March, 1893, I had the opportunity of examining the boy's arm, and as he was very thin I was easily able to satisfy myself that all the points of bone were normal, and that there had been no damage done to any of the epiphyses. The movements of the joint were absolutely perfect and the only sign of the injury was a long white scar to the inner side of the biceps tendon.

Remarks.—In compound dislocations of the elbow-joint (and these are rare without some fracture) the wound is almost invariably at the posterior or lateral aspect of the joint—in fact, it appears to be impossible that such a wound as I have just described could occur except by hyper-extension of the joint, so that the elbow is bent forwards. When this occurs it necessarily follows that the brachial vessels and median nerve are in jeopardy. In the case under notice the artery was so pinched that the radial pulse was barely perceptible; and in a somewhat similar case recorded by Mr. Rushton Parker the artery was completely torn through. With regard to the difficulty experienced owing to the protruding bone being grasped by a band of fascia, it has since occurred to me that this might have been overcome by a plan recommended by Dr. Andrews of Chicago[1]—i.e., by first fully straightening and even hyper-extending the elbow-joint, so as to slip the coronoid process under the trochlear surface of the humerus, and then suddenly flexing the arm (this method is illustrated by a diagram). I think this plan might have succeeded in withdrawing the protruding bone from the wound, and then flexion would have completed the reduction. An old and naturally somewhat "out-of-date" work, which nevertheless contains much valuable practical advice,[2] points out how much damage may be done to the epiphyses, especially that of the coronoid process, by forcible flexion in the case of children; and therefore Mr. Skey strongly recommended reduction by extension of the forearm "in a straight direction downwards." There can be no doubt that in the case of children chloroform must not be employed as a means of using anything like force, or mischief will result.

Rodney-street, Liverpool.

[1] Ashhurst's Dictionary of Surgery.
[2] Skey's Operative Surgery.

QUEEN'S COLLEGE, CORK.—The following prizes have been awarded at the Sessional Examinations in the Faculty of Medicine:—First year: Experimental Physics: T. P. Flynn, prize. Chemistry: J. Murphy, first prize; R. Ahern and George Ross, prizes. Practical Chemistry: J. St. J. Murphy, first prize. Zoology: E. J. Butler, first; G. E. Charles, second. Botany: George Ross, first; G. E. Charles, second.

CHLOROBROM IN SEA-SICKNESS.

BY R. C. ROBERTSON, M.B., C.M.GLAS.,
SURGEON, SS. "FURNESSIA."

IN THE LANCET of June 24th Dr. Ledingham contributes an interesting note on the use of chlorobrom in sea-sickness. My experience of this solution, derived from its systematic use during six trips across the Atlantic, has led me to entertain a similarly high opinion of its efficacy in this malady. There can be no doubt that, administered in the right way and assisted by a careful regulation of diet and exercise, it quickly restores the patient to health after the first outburst of retching and vomiting is over, and there is a probability that it will prove to be an absolute preventive of the onset of sea-sickness in a very large proportion of cases provided that due attention is paid to the stomach and bowels for a few days previously to sailing. The voyage across the Atlantic occupies so short a time nowadays that few even of those who know themselves to be bad sailors think it worth while to consult a physician, and as a result an opportunity of testing the prophylactic value of any drug rarely presents itself; but in one case of which I have notes the result could hardly have been more satisfactory.

A young married lady, who when voyaging had invariably suffered from utter prostration and sea-sickness, dreading the eight days' ordeal which she confidently anticipated, consulted her medical adviser in the hope of obtaining some measure of relief. The result was that she went on board in a condition of health, so far as concerned her bowels and stomach, to admit of chlorobrom having a fair chance of showing what value it possessed as a prophylactic. She continued to take it night and morning for the first three days in half-ounce doses, and during this time she felt in perfect health. On the fourth day she ceased even to be nervous and no longer regarded herself as a patient. She gave up her medicine and freely indulged an excellent appetite. Unfortunately for her, but fortunately for the value of the case as a test one, the sea became rougher during the fifth night of the voyage. In the morning when called to see her I found her vomiting and retching violently. After her stomach was thoroughly emptied a mustard leaf was placed on the epigastrium to allow chlorobrom to be retained, and half an ounce was given. She fell asleep and remained so for four hours. On awakening she felt well and wished for something to eat. She was given some beef-tea, which her stomach rejected after she went on deck; but immediately after this took place the feeling of sickness entirely left her, and she remained, with the aid of chlorobrom in the evenings, perfectly well till the end of the trip.

It is rare indeed to find passengers so carefully prepared as this lady was. The condition of most of them, owing to pleasant meetings with their friends before sailing, is one in which the first acute attack of sea-sickness acts as a very wholesome and beneficial emetic; but it is the secondary stage—the stage of headache, retching and prostration—which is most undesirable for the weak and fraught with most discomfort to all because it is often prolonged, and it is just in this stage that chlorobrom is most useful. The testimony of an intelligent patient is most valuable in a case of this kind, and if my memory serves me right I have never given this solution to a saloon passenger without his speaking well of it to me afterwards. One gentleman, an Anglo-Indian in delicate health and a martyr to sea-sickness, told me that he would never travel by sea again without taking chlorobrom with him.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—The next examination for certificates in Psychological Medicine will be held in England at Bethlem Hospital, London, on July 18th, at 11 A.M.; in Scotland at the Edinburgh, Glasgow and Aberdeen Royal Asylums, on July 20th, at 10 A.M. The examination for the Gaskell Prize will take place at Bethlem Hospital at 11 A.M. on July 19th. Candidates should give notice to the general secretary, Dr. Fletcher Beach, 11, Chandos-street, Cavendish-square, if they wish to be examined in England; and to the honorary secretary for Scotland, Dr. Urquhart, Murray's Asylum, Perth, if they desire to be examined in Scotland.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

A CASE OF PENILE FISTULA IN A CHILD.

BY HERBERT W. PAGE, M.C.CANTAB.

THAT the treatment of penile fistula presents many difficulties, which are not likely to be lessened when the subject of it is a child, will doubtless be readily conceded by all surgeons. In the particular instance which here seems worthy of record the fistula had been caused by destructive sloughing of the floor of the penile urethra from the tight ligature of a piece of thread round the penis by the child himself. The treatment adopted, both that which failed and that which in the end succeeded in curing the fistula, shows how very essential it is to divert the stream of urine by a perineal opening, and how well it would be in all such cases to proceed forthwith to carry this out rather than to waste time over other methods which are pretty sure to fail. The case, moreover, illustrates with what advantage the urethra may be sutured, in that stricture is surely less prone to follow the careful apposition and union of the freshened edges of a urethral gap than when the opening is allowed to close, if, indeed, it ever would close, by the slow contraction of cicatricial tissue. This has been clearly demonstrated by Dr. Manley of New York and other recent writers in the treatment both of organic stricture and of ruptured urethra.[1] A similar case was published some years ago by Mr. Clutton,[2] and there also the benefit resulting from a perineal opening was unquestionable, for, the stream of urine having been thus diverted, he closed the penile fistula by a plastic operation with almost entire success, a pinhole orifice alone remaining and causing so little inconvenience that his patient declined further treatment. His case was probably a very much worse one than mine, but in my case likewise some temporary trouble arose from a minute orifice. This at length was fortunately closed, and when the child left the hospital he was able to micturate in the natural way.

A boy aged five came into St. Mary's Hospital on September 14th last with his penis enormously swollen and œdematous and having a ring-like ulcer near the root. Incisions were made to relieve the tension, but it was not until the 16th that there was found tied tightly round the penis a piece of cotton thread buried and hidden in a deep sulcus. The discovery of the piece of thread was a matter of no small difficulty because of the depth of the sulcus, overlapped by the œdematous tissues in which it lay, and only the conviction that, in spite of the child's denials, there must be a ligature there, determined the continuance of the search. The child then acknowledged that he had himself tied the thread round his penis fifteen days previously, and it was therefore not surprising that after so prolonged a strangulation there should be deep ulceration round the penis and into the urethra, that the organ presented an unusual condition of solid œdema and that it was greatly swollen and enlarged. There was no material diminution in the œdema after the removal of the thread and accordingly Mr. R. M. Smyth, the house surgeon, circumcised the child on the 28th. This, then, was the state of the child when I returned to the hospital in October, and, moreover, all his urine was being passed through an ulcerated gap in the urethra immediately in front of the scrotum. Examination revealed distinct stricture at the site of, and slightly anterior to, the fistula. Stricture and fistula both, therefore, called for treatment, and the following were the stages of it. In the first place, it was hoped that dilatation of the stricture might lead to closure of the fistula, and to effect this a soft catheter was passed every day until the urethra bore with ease a No. 7. Nevertheless this treatment was without influence on the fistula. Next we tried tying in a No. 5 soft catheter, in the hope that no urine might escape by the fistula and that the wound might heal. The child resented the treatment and evidently suffered much pain, and it was necessary to confine his legs in a box splint. But the

[1] Annals of Surgery, vol. xvii., p. 181.
[2] THE LANCET, Dec. 8th, 1883.

treatment was without avail, save that by Nov. 3rd all indications of stricture had gone. Accordingly on Nov. 6th, the fistula being as bad as ever, I made a perineal opening and inserted thereby into the bladder a rubber tube, so that for the next few days at any rate the urine should have no other route for escape. At the same time I pared the edges of the fistula, urethral as well as cutaneous, and with fine catgut sutures in the axis of the tube succeeded in closing the orifice in the skin and urethra alike. By reason of hæmorrhage this part of the small operation was most troublesome. The body of the penis was now encircled with a strip of iodoform gauze, and when this dressing was removed on the 21st, the child meanwhile having been kept from undue movement by splints and bandages, the penile orifice was happily found to be closed and, the tube also having been taken from the bladder, the greater part of his urine was passed per viam naturalem. The perineal wound rapidly healed, but on Dec. 10th it was seen that the fistula could not be as perfectly closed as had been previously noted and believed, for urinous moisture occasionally exuded from a very minute pinhole orifice. This was touched from time to time with nitrate of silver, whilst the passage of a sound enabled me to feel sure that there was no recurrence of stricture: and that the child might be sent home without even the suspicion of urethral narrowing he was kept in hospital until Jan. 11th of this year in order to pass the sound for a fortnight after the pinhole orifice had finally closed. The penis had by this time regained its natural size, and here it may further be said that the œdema and induration had subsided with greater rapidity after the fistula had been closed.

LATERAL LIGATURE OF THE INTERNAL JUGULAR VEIN.

BY J. ERNEST FRAZER, M.R.C.S., L.R.C.P. LOND.,
SENIOR HOUSE SURGEON TO THE METROPOLITAN HOSPITAL, KINGSLAND-ROAD, N.E.

AN anæmic girl aged twenty-seven came to the Metropolitan Hospital on March 27th. There was a mass of glands, apparently about the size of a small hen's egg, behind and rather above the centre of the sterno-mastoid muscle, to which it seemed adherent. No fluctuation or discolouration of skin was observed. There were many strumous scars on both sides of the neck. As it was evident that the glands would soon break down, if they had not already begun to do so, I determined to remove them. Under ether, and subsequently chloroform, an incision about one inch and three-quarters long was made downwards and backwards over the swelling. A few drops of dark-coloured pus were found in one of the superficial glands, the rest were solid. On the outer aspect the mass was fairly easily separated from the surrounding structures, but it was firmly adherent in front and internally; the external jugular vein, being involved, was clamped and divided. The mass was found to extend behind the muscle, from which it was with difficulty separated. Whilst removing the tumour from the deeper structures behind the muscle there was an alarming rush of blood from the situation of the internal jugular vein. The vein wall was immediately drawn forward with pressure-forceps and the hæmorrhage controlled. Pressure was now placed over the vein above and below and the wound examined, when a cut about half an inch long was seen in the vein in a transverse direction. Clamps were placed on either side of this cut and a lateral ligature of stout silk was tightly applied. The wound was then cleared of all glandular structure, washed out with a solution of perchloride of mercury (1 in 500) and closed entirely, the patient being put to bed with the neck bandaged as firmly as possible, flexed, and fixed between sandbags. The wound healed by first intention, the stitches being removed in a week. The day after the operation the right pupil was noticed to be smaller than the left and had remained in that condition. In connexion with this pupil affection an interesting point was noticed after a few days—namely, the development of slight ptosis on the right side, which was apparently functional and secondary to the contracted pupil. I have thought this case worth recording on account of the size of the wound in the vein, which was almost half an inch long. The application of the ligature included so much of the vein wall that the vessel became tense and dragging so marked that the head was flexed as soon as possible, a proceeding which immediately relieved the tension. This tension seemed to be the only source of danger provided the wound remained septic, as Mr. Walsham showed in a paper read before the Medical and Chirurgical Society in 1888, in which he had tabulated sixteen cases of lateral ligature of veins. One of the patients referred to by him died from causes unconnected with the wound of the vein and three from secondary hæmorrhage on separation of the ligature—conditions that should not exist now under ordinary circumstances. During my patient's stay in the hospital there was at no time any reason to suppose that the lumen of the vein was blocked.

Croxted-road, West Dulwich, S.E.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

CHARING-CROSS HOSPITAL.

PERIGASTRIC ABSCESS PERFORATING THE DIAPHRAGM AND CAUSING EMPYEMA; OPERATION; DEATH; NECROPSY.

(Under the care of Dr. MITCHELL BRUCE and Mr. JOHN H. MORGAN.)

OUR readers are aware of the rapidly fatal results which usually follow perforation of a gastric ulcer into the peritoneal cavity, death taking place within a few hours or days after the commencement of symptoms. The following illustrates the course of a rarer class of these cases, in which the inflammatory changes consequent on the giving way of the ulcer are subacute and localised, and in which the subsequent suppuration is shut off by the adhesions thus formed from the general peritoneal cavity. Looking at the case from the light of subsequent events it would appear that the perforation of the diaphragm began to take place about five days after the patient's admission, the slight area of dulness at the lower part of the left thorax, accompanied by a sudden rise of the thermometer to 104° F., being probably coincident with the commencement of the empyema. The liver had possibly already been implicated, as was shown by the enlargement and tenderness. It was not until five days later that the abdominal swelling was observed to diminish, and in the course of the next three days it became almost imperceptible and the tenderness had entirely disappeared from the region occupied by the tumour. As the swelling disappeared from the abdomen the area of dulness in the posterior thoracic region gradually spread upward, with other evidence that the lung was receding from that part of the chest. On March 20th the consultation was held and the operation was performed immediately afterwards.

A female domestic servant aged twenty-five, with good family history, had suffered from symptoms of gastric ulcer at intervals since 1885. On Feb. 13th, 1891, she was suddenly seized with violent pain in the epigastrium whilst kneeling, causing her to feel faint and to lie with the thighs flexed for about thirty minutes. She was attended by a medical man and a few days after was able to get about. Shortly before admission to hospital she was attacked with faintness whilst riding in an omnibus, but managed to reach home, when she suffered from violent pains in the back. The bowels were not relieved for three days and on Feb. 16th the motion was quite black and was followed by loose and watery evacuations. During this period she suffered greatly from thirst and frequent night sweats, which were accompanied on two occasions by shivering fits lasting for ten minutes or more.

When admitted to Charing-cross Hospital on March 2nd she was thin and anæmic; the tongue was furred, the temperature was 101° and she complained of pain in the epigastrium, which at intervals extended across the abdomen. On inspection a rounded, tense swelling the size of a small orange was found on a level with, and to the left of, the umbilicus. During the next ten days this swelling became less distinct and the general condition improved. No pus was seen in the motions

and the urine contained no albumen, but dulness was found in the post-axillary line from the sixth rib downwards in the left thorax, and coarse moist sounds were heard in this region on auscultation. During the following days the swelling diminished, but the chest complication became more marked. Her nights were broken by long fits of coughing and by severe sweating, and the temperature rose to 102° and 103°. Her weight gradually diminished. On March 18th marked tenderness was found on the left side below the scapula and the area of dulness had increased. An aspirator was introduced into the thorax and some sanguineous fluid, in which pus corpuscles were found, was removed. A consultation was held and an operation was decided upon.

On March 20th, as the patient was being removed to the operating theatre, she was seized with an attack of coughing, the breath having an offensive fetid smell, and during the administration of the anæsthetic (ether) the breath had the same fetor and some muco-pus of a similar character was expectorated. An aspirator needle was passed through the seventh left intercostal space a little in front of the axillary line, and about two ounces of thick pus having a very fetid odour was drawn into the bottle. From the site of the puncture an incision running forward for two inches was made, the periosteum was stripped off and an inch and a half of the eighth rib was removed. Through the space thus given the pleura was freely opened and more than a pint and a half of very foul pus, accompanied by equally fetid air, escaped. On passing a finger into the pleural cavity the upper surface of the diaphragm was felt. It appeared to have been thrust upwards and the part between it and the lower ribs seemed to be almost obliterated. At about the distance of an inch from the opening an irregular perforation with ragged edges admitted the finger into the cavity of a large abscess below the diaphragm. This contained a quantity of pus and blood clot, and below and to the left could be felt the smooth, round, upper surface of the spleen. Beyond this the limits of the abscess could not be ascertained. Thus there existed two large cavities, one above the diaphragm, which consisted of the whole of that part of the left pleural cavity not occupied by the compressed and shrunken lung, and another below it, communicating with the former through the ragged perforation in the diaphragm, the extent of which could not be certainly estimated. The gradual disappearance of the abdominal swelling was thus accounted for and the simultaneous onset of the symptoms of empyema, as had been diagnosed by Dr. Bruce, was explained. The pus evacuated was thick and that from the lower cavity was mixed with clots. No trace of the contents of the stomach could be discerned in the discharges. The two cavities were freely washed out with warm boracic lotion and a separate drainage-tube was passed into each. Antiseptic dressings were applied, but required to be packed with fresh wool twice during the night owing to permeation by the contents of the cavity. The patient rallied well from the operation, but although in no pain she passed a restless night owing to continual cough, the sputum being small in amount, very tenacious, fetid in odour and slightly bloodstained. The wound was dressed and the drainage-tubes were removed, the cavities being syringed with boracic lotion. The discharge was still offensive, but it was less so than at the time of the operation. The temperature was 102° and the pulse 136. On the following day the patient was restless and slept but little owing to frequent cough. The sputum was less fetid, but the wound required to be dressed twice owing to the amount of discharge. The temperature rose to 104°, but in the course of the next few days it sank to 101°, varying between that and 99·5°. The pulse was from 116 to 120, and the respiration was from 32 to 40. The left thorax was immobile except at the upper part. There was profuse perspiration, but the cough and expectoration diminished and the patient slept fairly well under the influence of morphia. There was no pain except when the dressings were changed. The discharge became less in quantity and much less offensive in character. The patient took plenty of food and stimulants. On March 28th, a week after the operation, she became rather light-headed. The cough was then more troublesome and she suffered pain from the irritation of sores over the spinous processes caused by the alembroth dressings. Her voice became very weak and the cough frequent and ineffectual. On the 30th she slept well without the administration of morphia and she did not wander in her mind. The temperature was lower, but there was more profuse perspiration with greater weakness. The edges of the wound at this time looked healthy, and on digital examination it seemed to be evident that the cavity below the diaphragm was diminishing by reason of the granulation tissue which was springing up on all sides. The irregular perforation in the diaphragm was not diminished and the finger passed easily through it, and the upper surface of the spleen was felt to be no longer smooth, as at the date of operation, but broken and covered with granulations. At the same time the discharge from this lower cavity seemed to be much less in quantity and the drainage-tube was therefore omitted. It also seemed as if the left side of the diaphragm was gradually rising and that thus the area of the upper cavity was steadily decreasing. The discharge through the upper tube continued to be profuse, but was not nearly so offensive. These impressions were borne out by the auscultatory evidences. On April 1st and for the following week the general symptoms seemed to be very hopeful. On the 6th it was noted that the external wound was closing rapidly and that it was quite sweet. The whole forefinger when introduced passed over the spleen, which was felt as a rather spongy surface, and, passing upwards over the opening in the diaphragm (which was then raised from two inches and a half to three inches above the level of the wound in the thorax, at least an inch higher than a week before), it then passed into an irregular cavity; and at about three inches and a half from the surface the lower margin of the lung could be felt, which appeared to correspond with the level of the lower angle of the scapula. On April 8th the appetite, which had hitherto been excellent, began to fail, sordes appeared on the lips and tongue, and there were some abdominal pain and constipation. These symptoms were relieved by medicine, and the voice, which had been feeble, became much stronger; the cough was much easier. On the 11th the discharge was less and inoffensive. The lower tube passing through the opening in the diaphragm, which had been replaced a few days previously, was left out, and the larger one, passed into the pleural cavity, was so surrounded by granulations as to make it difficult to introduce. The temperature fluctuated between 102° and 99°, the pulse varied from 112 to 136 and the respiration was from 28 to 36. These conditions lasted with fluctuations until April 30th, when the pyrexia increased. It was also evident that the patient was not gaining in strength, although she was getting up daily to exchange her bed for a couch. Her weight was gradually diminishing, though she continued to assimilate large quantities of food. The wound had contracted so as to admit the little finger with difficulty and the dome of the diaphragm had continued to rise so as to lessen still more the cavity of the suppurating pleura. The discharge continued, but in diminishing quantity, and was free from fetor. On May 4th she was wandering in her mind and restless, and whilst the wound, which was discharging the usual amount of sweet pus, was being dressed there came suddenly a rather more copious discharge of very offensive matter, being about half an ounce in all, evidently due to an accumulation in the abscess cavity below the diaphragm. On May 24th it was noted that the patient had been losing ground considerably. The wound was dressed daily and syringed with boracic lotion, but this failed to keep it sweet and it became more and more foul. The discharge, which was thick, purulent and offensive, always came away freely and sometimes in gushes. For the past ten days there had been a slight tendency to diarrhœa, and the mouth was sore from aphthous patches on the tongue and gums. The track leading into the pleura always admitted a drainage-tube, but as it had become narrowed by exuberant granulations a tangle tent was placed in it for four hours, after which a larger tube could be passed. On account, however, of the rising temperature and increasing emaciation the patient was placed under chloroform and about two inches of the eighth rib were removed, with a view to give freer exit to discharges. She took the anæsthetic well, but no pent-up matter was evacuated. There was copious oozing from the granulations, and when the wound was dressed there was a good deal of very offensive discharge. It was found that the cavity was not extensive, since the under surface of the lung came down to within an inch and a half of the diaphragm, which had risen a great deal. It led almost directly upwards and backwards towards the spine. The patient seemed to be relieved by the operation and the temperature was lower; she took food satisfactorily. After a consultation on June 3rd it was decided that a still freer opening should be given to the discharges, and accordingly a portion of the sixth and fifth ribs was removed. No collection of pus was found, but there was free oozing of blood from the

granulations, which was checked by plugging. The patient daily grew weaker and died on June 12th.

At the post-mortem examination cicatrisation of an old gastric ulcer was found and the stomach was firmly adherent to the diaphragm, which was displaced considerably upwards as well as towards the pancreas and liver. In the substance of the left lung was a large abscess, and the pancreas and left lobe of the liver were largely eroded by ulceration, the cavity of which these organs formed the boundary communicating through the perforated diaphragm, and what remained of the left pleural cavity was filled with pus and granulations. The bodies of the ninth and tenth dorsal vertebræ were slightly eroded on their left aspects.

Remarks.—From the surgical aspect of the case one naturally asks whether any further means could have been taken to remedy the state of affairs. In the earlier stages of the case—for the first three weeks at least—there appeared to be good reason to hope that the free evacuation of the pent-up matter and the frequent cleansing of both cavities would be followed by the closure of the subdiaphragmatic abscess and by the gradual elevation of the diaphragm to the level of the lung in the thorax. Both these expectations were disappointed. On the one hand, the pancreas and liver were very largely eroded, the former to the extent of almost total disorganisation; and no doubt the continued ulceration of these parts led to the recurrence of the frequent discharges of fetid material after the cavity had appeared to be almost entirely filled with granulations. On the other hand, the lung had also been invaded by the pus from the original site, as was shown by the gush of fetid muco-purulent material from the mouth which occurred when the patient was being conveyed to the operating theatre. The ulceration of lung tissue must have continued for some days, as shown by the progressive retraction as well as by the condition witnessed at the post-mortem examination. It was the continued ulceration in these parts that led to the fatal issue and it is difficult to see by what further measures it could have been arrested. Such cases as this are so extremely rare that we have no previous experience to guide us in their treatment. If such a case were to come under our observation again we should probably be tempted to open the abscess through the peritoneum as soon as its projection and its nature could be discerned, and were that successful the mischief caused by perforation of the diaphragm would, if not prevented, at least be very greatly diminished.

MELBOURNE HOSPITAL, VICTORIA, AUSTRALIA.

TWO CASES OF CUT-THROAT TREATED BY TRACHEOTOMY AND IMMEDIATE SUTURE.

(Under the care of Mr. T. N. FITZGERALD.)

THESE cases are examples of the more modern treatment of wounds of the neck by the application of immediate sutures to the wound and, where indicated, the insertion of a tracheotomy tube. They are also interesting as indicating the advance of surgical practice in this department in Australia, and our readers will observe that the first of these cases was under treatment in the year 1882. Mr. Durham discountenanced the use of sutures as recently as 1883 for the following reasons: He considered (1) that they were needless in most cases, for primary union could rarely be expected; (2) they were sources of danger for (*a*) if bleeding recurred blood might trickle into the air passages and cause suffocation; (*b*) purulent discharges might pass into the air passages or otherwise give serious trouble; (*c*) inflammation and œdema of the neighbouring parts and of the mucous membrane of the larynx might ensue or the patient might have a cough and be unable to expel the mucus secreted; and (*d*) there would be a greater tendency to emphysema. There is no doubt in our minds that the treatment recommended long ago by Albanese of Palermo, which has only been recently resorted to as a routine practice, was rightly rejected considering the methods of wound treatment formerly available, and resulted from a practical knowledge of the course of such wounds. We can now apply unirritating sutures deeply and superficially, give sufficient drainage, and in most cases prevent suppuration or limit its extent. That suppuration will occur sometimes is fully recognised by all practical surgeons, the subjects under treatment being frequently in very bad health—suffering from great mental depression, possibly the victims of visceral disease, and perhaps also restless and violent from delirium tremens. There is, moreover, extreme difficulty in securing rest of the parts in these cases, from the nature of the important structures involved in or underlying the wounds.

CASE 1.—A man aged forty-five was admitted into the Melbourne Hospital on June 17th, 1882, suffering from an incised wound three inches long, extending across the front of the neck and dividing the thyroid cartilage just below the vocal cords. The hæmorrhage was slight, but the patient was collapsed. Chloroform was administered and Mr. Fitzgerald at once performed tracheotomy, stitched the cut edges of the cartilage accurately together with silk sutures and closed the external wound. The wound healed somewhat slowly, but the man soon showed symptoms of pulmonary trouble and eventually died from septic pneumonia on July 11th, twenty-four days after the infliction of the wound. At the necropsy the original wound was found to be quite closed and the divided parts of the larynx were in perfect apposition.

CASE 2.—A man aged sixty-five was admitted into the Melbourne Hospital on Oct. 18th, 1892, suffering from a cut-throat, the injury having been recently inflicted with a razor. The thyro-hyoid membrane was divided and the epiglottis was completely severed from the thyroid cartilage. The patient was collapsed, pale and cold, and there was free hæmorrhage, venous and arterial, which was immediately arrested by forci-pressure. Under chloroform Mr. Fitzgerald at once performed tracheotomy and introduced a Trendelenburg's tube; he then accurately stitched the epiglottis to the thyroid cartilage with catgut, closed the wound in the thyro-hyoid membrane and finally closed the external wound with wire and horse-hair sutures, leaving a drainage-tube at either end. The wound was dressed with iodoform and perchloride of mercury gauze, a cardboard splint was applied to the neck and the head was kept flexed by a cap and bandage. The patient was so weak that he twice nearly died during the operation, artificial respiration having to be performed, with intermittent pressure over the heart. Afterwards his pulse quickly improved and his breathing was perfectly easy, no blood having made its way into the trachea during the operation. The subsequent course of the case was quite uneventful. He was fed by the mouth on the next day. The tracheotomy-tube was removed on the fifth day, the drainage-tube on the left side on the sixth day, and that on the right on the ninth day. There was a little purulent discharge from the right angle of the wound, but the rest healed by first intention. The patient was discharged on Nov. 8th, twenty-one days after admission, but the wound had then been already healed for nearly a week. He was able to speak perfectly.

Remarks by Mr. T. N. FITZGERALD.—The notes of these cases have been taken from the Melbourne Hospital books by my friend and colleague Dr. Moore. Quite recently I have had in private practice a very similar case in which the same treatment was carried out with a perfectly good result. I think that tracheotomy should be resorted to in cases of cut-throat when the larynx is severely wounded or even when the parts in its very close proximity are much injured.

THE board, staff, and past and present students and nurses of St. Mary's Hospital, W., have presented their president, H.R.H. the Duke of York, K.G., with a wedding present in the form of a silver lamp of choice design and bearing a suitable inscription.

THE SOCIETY OF APOTHECARIES.—The following gentlemen were elected on the Court of Examiners on June 20th for the ensuing year:—Examiners in Medicine: J. C. Thorowgood, M.D.Lond., F.R.C.P.: R. J. Lee, M.D.Cantab, F.R.C.P.; F. de H. Hall, M.D.Lond., F.R.C.P.; H. R. Crocker, M.D.Lond., F.R.C.P.; F. Warner, M.D.Lond., F.R.C.P.; Sir H. R. Beevor, Bart., M.B.Lond., M.R.C.P.; A. P. Luff, M.D. Lond., M.R.C.P. In Gynæcology and Obstetrics: A. H. N. Lewers, M.D.Lond., M.R.C.P.; T. V. Dickinson, M.D. Lond., L.R.C.P. In Surgery: W. J. Walsham, F.R.C.S.; A. Clark, F.R.C.S.; W. A. Lane, F.R.C.S.; W. A. Frost, F.R.C.S.; A. T. Norton, F.R.C.S.; B. Pitts, F.R.C.S. In Chemistry: H. F. Morley, D.Sc. and M.A.Lond.; F. J. M. Page, B.Sc.Lond. In Materia Medica and Pharmacy: C. Y. Biss, M.D.Cantab., F.R.C.P.; S. Phillips, M.D.Lond., F.R.C.P. In Anatomy: C. B. Lockwood, F.R.C.S.; F. G. Parsons, F.R.C.S. In Physiology: J. B. Sutton, F.R.C.S.; J. W. Washbourne, M.D.Lond., M.R.C.P.

Reviews and Notices of Books.

A System of Practical Therapeutics. Edited by HOBART AMORY HARE, M.D., assisted by WALTER CHRYSTIE, M.D. Vol. I. Edinburgh and London: Young J. Pentland. 1892.

THREE volumes of Practical Therapeutics, weighing over six pounds and containing more than a thousand pages, are apt to cause a feeling of dismay, if not of despair, in the mind of the conscientious reviewer. A perusal of the list of contributors goes some way towards the restoration of calmness of spirit, and a study of sundry articles restores that equanimity which is essential to just criticism. A study of sundry articles only, be it repeated, for it may at once be candidly confessed that we have not laboriously waded through each of the three thousand and more pages. Let it not be thought, however, that there is any especial difficulty in reading these volumes. Nearly every section is written by a master of the subject—that is, by one who is sufficiently familiar with it to be able to be lucid. Obscurity may almost always be regarded as the result of uncertainty.

The first volume deals with the following subjects: General Therapeutic Considerations; Prescription Writing, Remedial Measures other than Drugs; Preventive Medicine, Diathetic Diseases, and Diseases of Nutrition. In the section on General Therapeutic Considerations by Dr. H. C. Wood, the author has been somewhat hampered by the difficulty of deciding upon the exact scope of the introductory chapter to such an elaborate encyclopædic work, but he has nevertheless contrived to be interesting within the narrow range he allows himself—viz., the different principles which underlie the modern methods of therapeutics, the relative effects on the human system of the same medicine in different doses, including the influences of idiosyncrasies, age, sex &c., and the rules for the combination of drugs. Dr. Remington deals convincingly with prescription writing and the combination of drugs, and he moreover contrives to be vastly amusing with numerous examples of faults in prescription writing. This section of eighty pages is truly marvellous for the amount of useful information it conveys. The section upon Electro-therapeutics is not so satisfactory. The uses of electricity in gynæcology and in obstetrics receive very full attention. English readers will be grateful for the brief statement of the most recent views of Dr. Weir Mitchell on the rest-cure for neurasthenia and hysteria, whilst the account of the so-called "Swedish movements and massage" will probably be mainly attractive on account of the curious and realistic illustrations; the energy of the operator is well indicated in the waving forelock in Fig. 95 and Fig. 96. The article upon general exercise by Dr. Hartwell to a large extent goes over the same ground as the last, but it includes numerous quotations from the writings of other workers in the same direction. Under the heading of Climate an able *résumé* is given of the conditions which determine the climate in different localities, and the physiological effects of variations are then detailed; space is also found for an account of the geographical distribution of disease, for a classification of climates, and for a consideration of the diseases in which climatic change is indicated; from an insular point of view it may be regretted that this last subject is dealt with so largely from an American standpoint. Of Hydrotherapy and mineral springs Dr. Simon Baruch gives an enthusiastic account and he usefully gives separate classifications of European and American baths and springs. General sanitation seems much too large a subject to be satisfactorily dealt with in a limited space, and it is moreover one upon which the regulations enforced by different Governments are scarcely yet in accord. The articles on Disinfection, Antisepsis and Asepsis appear to be well up to date, and Dr. Burney Yeo, in the section on Nutrition and Foods, quotes largely from the writings of Drs. Bauer, Dujardin-Beaumetz, Germain Sée and others.

Coming now to the Diathetic Diseases and Diseases of Nutrition, Dr. Solis Cohen leads off with an article on Tuberculosis, which is by far the longest article in this volume. Although he starts with the statement that "tuberculosis is a curable disease," he concludes by a solemn warning against being "led astray by the *ignis fatuus* of 'specific medication.'" Between these extremes, however, he gives a very full account of the various methods of treatment which have been advocated within recent times. The concluding articles upon Scrofulosis and Rachitis, Acute and Chronic Articular Rheumatism, Rheumatoid Arthritis and Gout, and upon Scurvy and Diabetes Mellitus do not call for any special mention.

Regarding this first volume as a whole it may be said that its great utility consists in the efforts that have been made to include all that is most recent in the way of therapeutics. The separate articles will be consulted with advantage by those who desire to be reminded of the "last word"; on the other hand, as a rule the individuality of the writer is kept in the background, the object being the presentation of current views rather than of original ideas. It may be objected that in very many instances there is considerable repetition of material by the different writers; but in a book of this size, which can only be expected to be used as a book of reference, such repetition is perhaps excusable. Certainly the editor has been careful to avoid contradictory statements. Consideration of the second and third volumes must be deferred to a future occasion.

A Treatise on Human Anatomy. By Various Authors. Edited by HENRY MORRIS, M.A. and M.B. Lond. London: J. & A. Churchill. 1893.

THE British student has been especially favoured in his anatomical studies by having had at his disposal such excellent text-books as those of Wilson, Gray and Quain, and to these has recently been added that of Professor Macalister. We have now to notice a still more recent work, in which the different sections have been written by separate authors, under the general editing and supervision of Mr. Henry Morris of the Middlesex Hospital. The chapters on Osteology have been written by Mr. Bland Sutton, on the Articulations by the editor, on the Muscles by Mr. Davies-Colley, on the Vascular System by Mr. Walsham, on the Brain and Nerves by Mr. St. John Brooks, on the Viscera by Messrs. Marcus Gunn, Hensman, Treves, and William Anderson, whilst Mr. Jacobson is responsible for the section on Surgical and Topographical Anatomy. The result is a large and, we must say, somewhat unwieldy volume of about 1300 pages. It is illustrated by 791 woodcuts, of which many are printed in several colours and are most artistic. Histology and development, except the mode and dates of development of the bones, are not included; so that it may be considered as a complete text-book of naked-eye anatomy, and it follows mainly the lines of Gray rather than those of Quain and Macalister. The bones are very carefully described and many of the illustrations are new; but the same fault exists in this new work as in so many others, in that the diagrams—as, for instance, of the temporal bone, the bones of the forearm and of the leg—are drawn on too small a scale. With Holden's Osteology as a model, we hardly expect this mistake to be repeated. A new mode of describing the illustrations is evidently highly thought of by the editor. This consists in printing the text descriptive of the illustrations around the latter and in different kinds of type: the muscles, fascia and ligaments in one kind; the arteries, veins and lymphatics in another; the bones in a third; and the

nerves in a fourth, and in a long diagram such as Figure 346 this plan undoubtedly adds to its distinctness, but it is insufficient to mark out the details of a small and crowded representation of a dissection such as is shown on page 1128. If we were to single out any section for special recommendation we should unhesitatingly select that devoted to the vascular system; but even here too many of the illustrations have been taken from single dissections in the museums of the Royal College of Surgeons and of St. Bartholomew's Hospital, rather than from the classical works of Quain and Tiedemann, which are undoubtedly more accurate so far as average human anatomy is concerned. An anatomist is bound to present to his pupils averages of dissections rather than the result of one or two minute dissections which he may have made or studied. The section of neurology is illustrated *inter alia* by drawings of casts of the heads of an adult male and of a newly-born male infant; but it must be clear to everyone on studying them and the text that the relations of the external skull to the brain vary very much more than is generally taught; and we recommend the chapter on cranio-cerebral topography especially to surgeons and anatomists who have been somewhat too prone to lay down absolute criteria for determining the sites of definite convolutions to the cranial bones and prominences as if unvarying precision could be obtained in all cases provided certain rules and measurements were followed. The whole work is written in a very even manner, which speaks well for the careful editing which Mr. Morris has bestowed on it. The descriptive text is clear, lucid and accurate, and most of the illustrations are remarkably well drawn and printed.

A Practical Text-book of the Diseases of Women. By ARTHUR H. N. LEWERS, M.D., M.R.C.P. Lond. Fourth Edition. London: H. K. Lewis. 1893.

THE advance of knowledge in any department of medicine necessitates the quick succession of new editions of text-books. The previous editions of Dr. Lewers' text-book have been duly noticed in our pages and we welcome the appearance of this edition. The author seems to have made the subject of supra-vaginal amputation of the cervix uteri for malignant disease a special study, as it has been dealt with in considerable detail, and twenty-two cases of this operation without a death are recorded, the subsequent histories of some of the cases reported in previous editions being stated. The chapter dealing with the radical treatment of uterine cancer is excellent and Dr. Lewers speaks from his practical experience with considerable authority as to the relative merits of the various procedures. The work can be recommended to practitioners and students as giving a concise view of the present state of gynæcological knowledge and practice.

Selected Monographs on Dermatology. New Sydenham Society. 1893.

THIS is one of the works published by the New Sydenham Society for 1892 and illustrates well the good work that the Society is doing in presenting monographs on various subjects in a more accessible form than they were as originally published. The first papers are selections from the numerous writings of Unna, chiefly in abstract, under the editorship of Dr. Abraham. We can only mention a few of them: The General Pathology of the Skin; Syphilis and Eczema Seborrhoicum; Hyphogenic, Coccogenic and Bacillogenic Sycosis; Skin Varnishes; the use of Ichthyol in Internal Diseases &c.; and a complete bibliography of Unna's writings—a formidable list—testifying to the indefatigable industry of the author. There are translations of two valuable clinical analyses by Dr. Nielsen of Copenhagen: one on the appearance of Herpes Zoster during the administration of arsenic and the second dealing with clinical and etiological researches in Psoriasis—in the latter the author supports the parasitic theory of Lang to explain the pathology of this disease. A series of papers by Dr. Duhring on Dermatitis Herpetiformis, extending from June, 1883, to February, 1891, follows Dr. Nielsen's first paper, and then comes that of Dr. Bronson on the Sensation of Itching. A case of Mycosis Fungoides by Dr. Blanc and a paper on Pellagra by Dr. L. Berger of Gradisca complete the shorter papers. The *pièce de résistance* is Dr. Morrow's Drug Eruptions, which Dr. Colcott Fox has edited and brought up to date, so that it is a *bonâ-fide* new edition of Dr. Morrow's useful work. The references have been checked and extended, and copious footnotes by the editor explain his views or add new facts, so that it constitutes a most valuable work of reference on drug eruptions. The whole forms a most useful and instructive volume to all who are interested in dermatological subjects.

Traitement de la Syphilis. Par ALFRED FOURNIER. Paris: Rueff et Cie. 1893.

WRITTEN by an acknowledged master of the subject, these lectures are a model for clinical teachers, and the various points are put forward in a series of sections in the form of questions, which the lecturer then proceeds to answer by arguments furnished from his rich experience and enforced and illustrated by cases from his note-books; finally he sums up his conclusions in a few propositions at the end of each section. The whole is delivered with an elegance of style and felicity of diction that are apparent even to an English reader of French, and carry us along without effort over the whole 600 pages, which are by no means too long, though it would be easy to pick out the conclusions if it were desirable to have the dry bones of the subject without their more interesting fleshy covering.

One of the first questions is with regard to the attempt to abort the disease by excising the chancre, and the author's conclusion is that, though the successes of this method are somewhat meagre, yet the results are not quite barren and where the position of the chancre and the circumstances of the patient permit of it, it is better to give the patient the chance and cut out the ulcer. Throughout he rightly insists on the importance of general hygienic measures, and in phagedænism these are paramount, as it is often necessary to discontinue specifics altogether, send the patient to the seaside and adopt general tonic treatment in order to arrest the destruction. All the substitutes for mercury and the iodides, he shows, are of only nominal value and worse than useless if they lead to deferring the employment of the more efficacious drugs. Whilst admitting that serious evils may arise in giving mercury he shows how they can nearly always be avoided. The mouth should be put into a thoroughly healthy state, if necessary, by the dentist's aid before commencing the administration of mercury; frequent examination of the mouth should be made, especially in the four positions in which mercurial stomatitis almost always commences—viz., on the gum opposite the lower median incisor; over some diseased tooth; on the buccal mucous membrane opposite the last molar tooth; or behind the last molar, which is the most common position. In all cases, the mercury should be suspended at the first sign of buccal irritation. The other ill-effects, such as gastro-intestinal troubles, injury to nutrition and cutaneous eruptions, may also be avoided in all patients, except those who are preternaturally sensitive to the drug, by judicious administration and by giving the patient intervals of freedom from its use. The chief modes of its employment are then discussed—viz., ingestion, inunction, intra-muscular injection and fumigation. It is admitted that they all have a place according to the patient's circumstances &c., and their limitations and indications are pointed out.

Both inunction and fumigation are valuable, especially the former, in serious lesions such as those of cerebral or medullary syphilis or in cases with refractory symptoms, but their inconvenience precludes them from being employed for a continuous and habitual plan of treatment.

The treatment by deep injections, also, only meets with limited support for special cases, as for a prolonged treatment it is the least practicable; whilst the serious and even fatal accidents, the pain at and after the injections, and the absence of proof that the effects are more lastingly curative, render it emphatically a treatment to be reserved for exceptional cases threatening serious damage to such an organ as the brain or the eye, when the rapid effect produced by injection is worth the extra risk and inconvenience. It follows, therefore, that for all-round treatment Dr. Fournier places most reliance on administration by the mouth, and the two preparations he prefers are perchloride of mercury in the French form of Van Swieten's liquor and the proto-iodide of mercury pills of Ricord. The first is most liable to upset the stomach; the second more often produces ptyalism, especially if the patient takes more than two of Ricord's pills a day, each of which contains five centigrammes of the mercury salt, and it is also more liable than the sublimate to produce diarrhœa. On the whole, however, Dr. Fournier prefers the proto-iodide, and he gives it before meals. He ignores the grey powder treatment so much in vogue in this country. With regard to the administration of mercury and iodide of potassium, he prefers to give the two drugs separately. An interesting point is that the injection of serum (dogs' or horses') into the circulation, as suggested by Dr. Richet, certainly seems to have a good effect both as an adjuvant to specifics and on its own merits; phagedænic ulcers heal rapidly or yield to smaller doses of mercury or iodides, and although it is too soon to pronounce definitely on its merits a case for further trial is made out for it.

We can recommend to our readers a study of the work before us, which is written by a practitioner of experience and discrimination and is replete with practical observations on almost every question with regard to the treatment of syphilis.

MAX VON PETTENKOFER'S JUBILEE.

OUR Teutonic kinsmen relieve the monotony of academic life by celebrations to which in their festive character and in the frequency of their recurrence we can produce no parallel in the British Isles. Such are the "jubilees" of eminent or popular teachers on the University staffs—jubilees of their birth or their graduation, or of their election to the chair they adorn. The last hero of such a celebration is Max von Pettenkofer of Munich, claimed by that school, and justly claimed, as the father of experimental hygiene, and honoured by that city as having reduced his precept to practice by converting it from one of the least into one of the most salubrious centres of population in the empire. It was the fiftieth anniversary of his having graduated "Doctor in Medicinâ" that, on the 1st inst., drew together the distinguished assemblage of colleagues, old pupils and fellow-citizens to congratulate him on the event, and the retrospect of able and independent work associated with his name during that "half-century of time" evoked from speaker after speaker on the occasion a cordiality and an eloquence of appreciation only less touching than the modesty with which it was not so much acknowledged as disclaimed. With the noble candour so characteristic of real merit, Dr. von Pettenkofer was at pains to impress on his audience the benefits he had received from those at whose feet he had sat or in whose discussions he had shared, and with regard to one at least of the services put down to his credit—the sanitary rehabilitation of Munich—he gently shifted from his own brows the civic wreath it had earned and placed it on those of a predecessor who had long been in his grave. On the younger amongst his hearers this beautiful self-abnegation and noble recognition of the work of others cannot have been thrown away, inspired as it was by a spirit not invariably exemplified in these days when the claim of "priority" is apt to be put forth with an insistence which would make the "discovery" of less importance than the "discoverer." But the organic inter-dependence of scientific progress becomes year by year less tolerant of self-assertion in its workers—in the healing art especially "the individual withers and the world is more and more." Of this Dr. von Pettenkofer's life, from the subject-matter on which it has been expended to the means by which it has wrought out its achievements, has been one long illustration. Nothing by which the energising mind could perfect itself for the work did he neglect or despise, "culture" being to him, and to such as he, as essential as "science." From his sound education at the Gymnasium he passed in 1837 to those literary and philosophic themes in which Munich then took a lead, and when in due course he entered on the study of nature he came to it with no one-sided development, but with the harmoniously evolved faculties that ensure the "complete professional mind." Accident, or rather family connexion, drew him with interest to mineralogy and, as its propedentic, to chemistry, and from that again to physiology. He was, indeed, for two years an assistant in the Bavarian Mint, and in the assay of the precious metals he left marks of his own which are still remembered and in practical use. His appointment in 1847 to a chair in the medical faculty of Munich brought him a step nearer the department he was one day to occupy with such authority; and here again he enriched the resources of the practitioner by discoveries and tests long since associated with his name. His detection of creatinin in the urine and the well-known *réactif* by which the presence of biliary acids is revealed have but to be indicated in this connexion. But all this time he was surveying the ground on which he was one day to be a pioneer; and in the study of atmospheric changes in dwelling-houses, of ventilation, heating, clothing, water in its quality and in its supply, soil and its exhalations, canalisation and drainage, river pollution and river purification he was steadily building up from its foundations the edifice he was one day to crown with his name—experimental hygiene. Interesting to anthropology, interesting to historical research, his investigations were soon seen to be of paramount importance in medicine, and particularly in that field of it which invokes the intervention of the State. The appearance of cholera at Munich in 1854 gave immediate practical direction to his comprehensive studies, and from that year he has constituted himself one of the authorities on that epidemic whom no antagonist, however eminent or however divided from him in experience or induction, can afford to despise. The attention he devoted to the soil in considering the genesis and diffusion of cholera, his principle of "örtliche und zeitliche disposition" (disposition as to place and season), gave an impulse to the investigation of the whole subject, which is still perceptible at congresses where the subject is discussed. Amongst the very first effects of his novel and striking views was his urgent call to fill the chair of Hygiene at Vienna. This he declined, but not before letting his fellow-citizens of Munich know the offer that had been made to him. As all the world perceived, his own University had but to ask him on what terms he would remain on its staff. "By founding a Hygienic Institute" was Dr. von Pettenkofer's answer; and to this the illustrious Bavarian school of medicine owes the initiative it took in 1878, when for the first time experimental hygiene was taught in a specially and completely equipped edifice. It is difficult to estimate how much State medicine would be the poorer if von Pettenkofer's labours had yet to be begun. An approximation towards appreciating such a state of things is afforded by the testimonies—the unanimous testimonies—that on the 1st inst. poured in from every great medical school in both hemispheres, Edinburgh and St. Petersburg heading the long list—testimonies to the unique work by which the hero of the day had earned, not from his compatriots only, the fond title of "Altmeister der Hygiene." Never were jubilee honours more thoroughly deserved than those of which the City Hall of Munich was on Saturday the scene; for they were not local or even national merely, but commanded the intervention and association of the entire medical world.

THE LANCET.

LONDON: SATURDAY, JULY 8, 1893.

IT can surprise no one that the Select Committee on Midwives has been reappointed. The subject is one of great importance and cannot be ignored by the Legislature. The art of midwifery is about the oldest of any and has been in demand since the world began. The poorest woman is dependent on it. The very commonness of the necessity has led to its being lightly regarded, as has also the fact of the necessity being confined to one sex, and that the most patient and enduring. Had half the suffering which is involved in labour been assigned by Providence to the male sex there is little doubt that much more attention would have been given to its mitigation. Whatever the explanation, the scandals of midwives' midwifery are great and cannot much longer be endured. We do not propose here to go into the question of the kind and amount of training that should be required of midwives. What is imperatively demanded is that they shall know something of the conditions and nature of healthy labour and that their function shall apply only to cases in which these obtain. Our intention at present is to impress this point on the Committee that is now sitting: that legal provision should be made in every parish and district that every lying-in woman shall have the benefit of the presence and assistance of a fully qualified medical man whenever there occurs any unusual delay or complication in her case, or where there is a stillbirth or anything unnatural in the condition of the child. It is vain to expect that the training of midwives can amount to much more than the comprehension of what is necessary in the ordinary circumstances of a lying-in woman and to a perception of the enormous importance of cleanliness and fresh air in such cases. It is discreditable to our laws that they have done nothing to promote this minimum amount of fitness and knowledge in midwives. But legislation can never create a class of midwives that can take the place of the fully qualified medical man. It is indisputable that the greatest improvements in midwifery have taken place since it came to be regarded as a part of the practice of medicine and that the great reduction in puerperal mortality is traceable to the application of the antiseptic system, which has revolutionised the art of surgery. The accidents of midwifery are comparable to those of surgery and the calamities of it are as pathetic. They appeal to every man of feeling, and the problem of legislation in connexion with this question, as we understand it, is to facilitate and secure that every poor lying-in woman in whose case there is anything unusual shall have within easy reach, by public arrangement and at public cost, the aid and the assistance of a fully qualified medical man. What would be thought of our public hospital arrangements if there were no provision for hæmorrhages and for cases of blood-poisoning amongst the poor? The need is equally great in the case of the lying-in woman; but there is this difference: she cannot be taken to a hospital. Help must be brought to her bedside and that without delay. If midwives are to be recognised it must be under some such system and subject to such limitations. It would be a retrograde step, we think, to create a class of midwives that should be under the delusion that they had had a medical education. Whilst the General Medical Council are adding yearly to the severity of medical education and examinations it would be intolerable to undo the good of such higher education by legislation that would lead a mere midwife to imagine that she had any sanction to undertake really medical duties. If there must be midwives—and we confess we do not see how they are to be dispensed with in the present state of society and with thousands of people that cannot afford to give a fee that the least self-respecting medical practitioner could afford to take—and if the State undertakes the responsibility of recognising an order of women for the charge of ordinary labour in the poorer sections of the community, the State should accompany such legislation with provisions for the supervision of such midwives by fully qualified medical men, for the strict limitation of the duties of midwives to ordinary circumstances, and with clear instructions that all exceptional circumstances in mother or child shall be reported to a medical man. Theoretically provision should be made for every lying-in woman, who is too poor to pay for a fully qualified medical man to attend her in her hour of need, to have such attendance if she so wishes it. This, however, is a counsel of perfection. The next best thing is to provide for some abatement in the ignorance of those who call themselves midwives and to ensure that in any emergency or exceptional circumstance poor lying-in women shall have the benefit of full medical attendance. If the promoters of some training for midwives would take this suggestion into their scheme it would do much to remove the objection of many to the recognition of midwives, which is founded on the principle that the successful practice of midwifery can only be based on a knowledge of the general principles of medicine. These considerations derive much additional force from the facts which have recently been brought to light touching the number of stillbirths throughout the country. We do not go into detail now on this subject, but it is obviously proper that the loose treatment of stillbirths hitherto in vogue should cease and that a medical report should be furnished in every such case as a condition of burial. The growth of civilisation demands more reverence both for child-life and for the life of women, and this cannot be secured without ensuring for both women and children a larger amount of medical attention in the circumstances of childbirth.

WE published in THE LANCET of last week a special report of a lecture by Dr. R. THORNE THORNE, which included an account of the principal circumstances under which Hamburg suffered from epidemic cholera last summer and autumn and under which Altona, which is practically one city with Hamburg, escaped the disease in epidemic form. And in the same issue we gave an account of a recent paper by Professor KOCH in which were explained in much detail the actual conditions under which the unfiltered Elbe water at Hamburg gave rise to cholera, whilst the same water, of infinitely fouler quality, but after

filtration, was at Altona only associated with cholera on occasions when some defect in the conditions attaching to its filtration arose. Dr. THORNE cautioned his audience strongly against attaching any value to mere sand and gravel filtration when the question was one of keeping out the organisms of disease, and he likewise gave a warning as to placing trust in ordinary domestic filtration under similar circumstances. The subject of the lecture has, however, at the present moment an importance which extends far beyond the limits of any ordinary lecture-room. It is practically the question which the Government have submitted to a Royal Commission now sitting to take evidence and to report on our metropolitan water-supply, and it is one which affects every community—and there are many in England—which derives its water-supply from a river which is liable to pollution by means of human excreta. And, to judge by views which are already being expressed, conclusions are being drawn from the Altona experience which are by no means justified and which Professor KOCH would be the first to deny. Under these circumstances we make no excuse for reverting to the subject, especially because, whilst avoiding any attempt to prejudge the questions with which the Royal Commission has to deal, we feel that it is of importance to know what is the value of the Hamburg-Altona experience.

Briefly recapitulated, the facts as set out by Professor KOCH are as follows. The authorities of Hamburg, taking their water from the polluted Elbe at an intake just above the town, delivered this water without filtration to the Hamburgers, of whom 18,000 were attacked with cholera, whilst some 8000 died. The adjacent town of Altona, separated from Hamburg in name only, drew its water from the Elbe after it had received additional pollution by reason of the river receiving the sewage of 800,000 people, of whom 18,000 suffered from cholera; but Altona passed its water through sand and gravel filters, and in so far as an epidemic is concerned Altona in its escape stood out in striking contrast to the cholera-stricken city of Hamburg. But, says Professor KOCH, not only did the sand and gravel filtration fail to save Altona, but when by reason of accident Altona had its water passed only through sand and gravel the town suffered first from limited outbreaks of cholera and afterwards from enteric fever. The safeguard, such as it was for Altona, lay in the formation on the surface of the sand in the filters of a layer of slimy mud, with organic and vegetable débris and micro-organisms, and these, after the style of a living membrane, allowed water to pass through, but held back the micro-organisms with which the Elbe water originally swarmed to the extent of from between 30,000 to 40,000 per cubic centimetre. But Altona nevertheless suffered from cholera. There were several hundred attacks; and part of Professor KOCH's argument is to show that all but about one hundred of these were due to direct importation from Hamburg or to other similar causes, and that the remainder had their origin principally in some failure of filtration which disturbed or otherwise affected the slimy layer referred to.

For the purposes of our present argument we will accept all that Professor KOCH sets forth, and we will endeavour to see how far we should be justified in accepting as satisfactory the results at Altona in so far as the wholesomeness of a water-supply is concerned. In the first place, Professor KOCH warns us strongly against placing "blind trust in water filtration" as such, and when he foresees that some may strain his argument as to the value of certain processes of filtration as practised at Altona and apply it to "domestic filtration" he adds: "I should not advise depending on small [domestic] filters in time of cholera." But to revert to filtration in bulk as carried out at Altona. We are reminded again and again that Altona owed its safety largely to the exceptional ability of its engineer, without whose supervision much that was attained might never have been accomplished. Hence an able official in command is a first necessity. Secondly, the filters must be small. If they are large, like those at Berlin and the new ones just erected at Hamburg, we are at once confronted with "nearly insuperable difficulties," for the supervision and the necessary experiments must be made very much in detail. Thirdly, the rate of filtration through the filtering medium must not exceed 100 millimetres per hour; and, as Professor KOCH puts it, "most water-works cannot accept this rule." But where failure was found to ensue it was only one part or one point of the implicated filter which allowed a more rapid filtration, and this can commonly be avoided by condemning the whole filter and all water passing through it. In the fourth place every filter must have its effluent water examined by a bacteriologist daily, or—in times of no danger and when every other requisite is in working order—once in every three days. In the fifth place the germs in the filtered water should have been reduced to not more than 100 per cubic centimetre, and even this is without respect to the quality of the organisms in question. Sixthly, the bacteriologist must make cultivations &c., with a view of testing as to the presence or absence of disease organisms, and this, it is hoped, may be done with more rapidity than is commonly the case; indeed, at present it would mainly be a case of learning that the very mischief to be avoided has already taken place—that it is, in the main, unavoidable whether cholera or enteric fever be in question. And, lastly, Professor KOCH, knowing that private individuals, having financial interests and ignorant masters and officials to deal with, can never be trusted with a matter which, as he puts it, involves the lives of thousands, announces that the State can alone be relied on to supervise all these various requirements and to ensure their efficient execution.

There are, we fear, people even in this country who are content to know that their water-supply is derived from sources where it actually receives, or where it is subject to the risk of, pollution by human excreta, and who talk too glibly of the effects of filtration. If the Altona-Hamburg experiment is to give them any comfort they must first secure the adoption of conditions as to filtration which are difficult of attainment, and even then they can only hope that the number of organisms—including the organisms of disease—which they may at any moment drink, shall not, in so small a bulk as a single cubic centimetre, exceed about one hundred.

WE need make no apology for returning to the recent debate in the House of Commons on the Army Estimates in connexion with the Army Medical Service and the vote for medical establishments. Several important points touching matters of principle were introduced into the discussion, and these call for a more extended consideration

than we were able to give them last week. To begin with some of those brought forward by Mr. HANBURY. As regards the probable inefficiency of the Service in any future war owing to the ignorance of medical officers of the material which they would have to use and of field hospital organisation and bearer company work, it must be borne in mind that this has been again and again made the subject of comment and complaint on the part of the Army Medical Service itself, and that it was the medical officers themselves who took the initiative in this matter. Medical officers must obviously have a practical acquaintance with the machinery they may have to use in warfare if they are not to court failure in the field, and they are perfectly right in pressing this matter upon the attention of the authorities until opportunities are afforded them for rehearsing in peace the parts they may have to play in the drama of war under circumstances of the gravest responsibility where failure would mean disaster. It will require, however, much more instruction than the War Minister somewhat vaguely shadowed forth by saying, "It was thought that in some way or other a week or fortnight's practice might be given." As regards another point raised by Mr. HANBURY—viz., the insanitary condition of army barracks, whether arising from original faulty construction of the buildings themselves or from conditions of overcrowding or want of cleanliness—it must be remembered that medical officers can only point out and recommend; they have neither financial nor executive powers. It is clearly altogether beyond their ability to pull down old barracks and to erect new ones, to override military considerations or to control the exigencies of service. Moreover, soldiers must be accommodated somewhere whilst new barracks are being built. Everybody knows that from the time a military medical service has existed until the present day sanitary defects and shortcomings have been, and are being, pointed out by medical officers, and Mr. HANBURY is probably quite as well acquainted with the fact as anybody else. The question of a regimental as opposed to a consolidated or unified system of hospital organization, upon which he also touched, has been fought out and settled long ago. A regimental hospital system is an anachronism in modern warfare; it was recognised long ago as cumbrous, impracticable and foredoomed to fail, and it was from a sense of this that medical officers—considering the increased efficiency of a public service as opposed to their own personal predilections—sacrificed the popularity and social advantages of a purely regimental system for that which now exists. That medical officers might have profited by being drafted from Netley to regiments for temporary service with corps, and that the regiments themselves would prefer to have one medical officer attached to them, is very probable; still, such an organisation would have conflicted with the principle of a unified medical service and been open to difficulties in working. But the dominating consideration which determined the matter was one which concerned the public and not the medical officers—viz., the expense which would have attended this measure. It is generally recognised that in the matter of the increased length of tour of Indian service the department has a real grievance. Indian service presses very heavily on the medical staff. Medical officers cannot obtain leave to the hills to the same extent as other officers; their work is commonly increased during the hot weather and numbers of them suffer greatly in health in consequence, often for a long time after they have left India. With regard to the returns showing the effects of foreign service at a number of different stations upon the health of medical officers, which were alluded to by Mr. CAMPBELL-BANNERMAN, it is rather difficult to obtain reliable statistical evidence, for where the numbers are small numerical results are often misleading, as they are liable to great fluctuations. We trust that these returns will be laid before the House of Commons at a future date. As regards military rank and titles, there is no need to enter into that subject now; but it must be always borne in mind that the military authorities have themselves to blame for what has taken place. It was the action of the War Office in abolishing relative rank, and the subsequent declarations that were made in regard to it, that gave rise to all that has since occurred. If Sir GEORGE CHESNEY'S remarks on the subject of the Medical Service were correctly reported, and if they express the prevailing feeling amongst military officers, then we cannot wonder that the Medical Service is not a contented one.

THE Select Committee of the House of Commons appointed to inquire into the subject of death certification having concluded the hearing of evidence is proceeding with the consideration of its report. As the inquiry is one of a most important nature, and as the report is, we understand, not likely to be published for some time, we need make no apology for the following remarks. For some years past there have been increasing difficulties in connexion with death certification arising from defects in the law which have been frequently alluded to in the columns of THE LANCET. All deaths may be divided into three classes: (1) those which are in all respects perfectly natural and in which a medical certificate of the cause may be given with perfect propriety; (2) those in which an inquest must be held in accordance with Section 3 of the Coroners Act, 1887—i.e., violent or unnatural deaths, sudden deaths the causes of which are unknown, deaths in prison or under other circumstances requiring an inquest; and (3) doubtful cases. These latter deserve, as they will be sure to receive, the most careful attention of the Committee, but before proceeding further it is desirable to remove all uncertainty as to the exact meaning of the term "uncertified" deaths. Of the total deaths upwards of 91 per cent. are, according to the Registrar-General, certified by medical practitioners and between 5 and 6 per cent. are certified by coroners, leaving only between 2 and 3 per cent. as uncertified. It is well known that coroners do not hold inquests in every case that is referred to them, but that they make informal inquiries, sending a printed form to the registrar to inform him that they consider an inquest to be unnecessary and giving him the probable cause of death. Hence there are (*a*) deaths medically certified, (*b*) deaths certified by coroners after inquests, (*c*) deaths certified by coroners after informal inquiry and (*d*) deaths wholly uncertified by medical practitioners or by coroners. It is important that these distinctions should be noticed, as otherwise there must be confusion. Thus, it is stated that in Croydon the cause of every death was duly

certified during 1892. This must surely include coroners' returns, as we can hardly assume that there were no inquests or informal inquiries during a whole year in a town containing more than 100,000 inhabitants. It is also stated that in Liverpool 594 deaths were registered without any "legal" certification of the cause of death. If the word "medical" be substituted for "legal" this might be correct, but the fact is that in Liverpool any death not medically certified is referred to the coroner, so that each death occurring in that city is certified either by a medical practitioner or by the coroner after an inquest or an informal inquiry. A total of 4180 deaths are given as having been similarly registered and the same explanation probably applies to them. It is upon these uncertified deaths that all who are endeavouring to effect an improvement in our present death certification must concentrate their attention and their best energies. Now let us see what follows. A person is found dying or dead and the medical man called in very properly refuses to give a certificate. Some practitioners would inform the coroner, others would advise the friends of the deceased to do so; some again would refer them to the registrar, whilst others would wash their hands of the whole matter and give no advice whatever. There is no such uniformity of practice amongst medical practitioners in these circumstances as could be wished. Passing on to the coroner, there is the same want of uniformity. Some coroners would hold an inquest, whilst others, after consultation with the medical practitioner who had been called in, would decide that an inquest was unnecessary and so get the credit of saving expense. In a case noticed in THE LANCET in the year 1892 a servant was found dead in the kitchen of the house where she had lived, the cause of death being probably hæmorrhage from a varicose vein in the leg which had ruptured; the coroner, satisfied with the medical report, did not hold an inquest, though, according to Section 3 of the Coroners Act, 1887, already noticed, he was possibly technically bound to do so. Supposing, however, that the case does not come before the coroner at first but passes on to the registrar, there is again an entire absence of uniformity; for some registrars would refer the case to the coroner, whilst others would register it as uncertified. No arguments are needed to show the evils which must result from such a variable procedure. One of the changes which will probably be made will be the amendment of the Registration Act of 1874, defining with at least some approach to clearness the cases in which medical practitioners ought to refuse to give a certificate—an omission which has thrown much discredit upon the whole system. Next, we may hope for some uniform rule as to dealing with these uncertified deaths. Probably to refer them all to the coroner would be the easiest solution of the difficulty; but here, again, there are coroners and coroners. The question as to whether an inquest should or should not be held is not a legal one pure and simple—it is largely a medical one. A coroner who has had a medical training may be presumed to be competent to decide this question, but a legal coroner who has had no such training cannot be considered to be competent. Frequent complaints are made by medical practitioners in THE LANCET of the manner in which they are treated by legal coroners, post-mortem examinations being refused and medical evidence rejected, not because both or either are unnecessary, but in order to save expense. Where an inquest is required medical evidence is almost invariably required too; otherwise the inquest is simply a farce. The inquests held by the present coroner for Birmingham, Mr. OLIVER PEMBERTON, are markedly fewer than those held by his predecessor, a legal coroner, and for the simple reason that Mr. OLIVER PEMBERTON, exercising a wise discretion, is able to forego what would otherwise be useless inquests. Even after a death has been regularly certified and registered, an inquiry may be demanded from the coroner by some dissatisfied relative or disappointed legatee, and an exhumation may be requested. A very good illustration of the former case will be found in THE LANCET of June 28th, 1862, page 695. Here, again, the advantages of a medical over a legal coroner in deciding such an important question as to whether the medical certificate of the cause of death was or was not correct must be obvious. Our present system of death certification and registration is not entirely bad; on the contrary, it has produced statistics furnishing data alike interesting and valuable. It is, however, of course capable of improvement from time to time, and the time has arrived to make it more exact throughout. It is humiliating to tell medical practitioners that seeing a dead body is not attending a person during the last illness, and yet the acts of more than one practitioner have rendered this necessary. The certificate of the future should be modified thus, "that I last saw him (or her) living," since this latter fact cannot be taken for granted. The book of certificate forms must be as jealously guarded as a banker's cheque book, and every practitioner filling up a form must realise what a solemn act he is performing, one which, done honestly and carefully, is of value to the State, the public and his own profession, but which, if done carelessly and hastily, vitiates the statistics and tends to defeat justice and to encourage criminals, whilst, moreover, it tends to depreciate the value of the services of the medical profession. Again, when it is necessary or desirable to refuse a certificate the medical man's duties are not fulfilled by the mere refusal; he should communicate with the coroner, informing him of the reason for his action. To send people on a useless errand to the registrar is as unwise as it is unkind. We trust that the investigations and deliberations of the Select Committee—of which, as we need hardly remind our readers, Sir WALTER FOSTER, a distinguished *confrère*, is chairman—will result in wise and salutary reforms of our present system of death certification.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—The annual dinner of this Society took place at the Criterion Restaurant on Wednesday, June 21st. There was a large attendance of members and guests in spite of the fact that many who would otherwise have been present were assisting at the Harvey Tercentenary celebrations at Cambridge. The usual loyal toasts having been proposed by the President, that of "The West London Medico-Chirurgical Society" was given by the Cavendish Lecturer for the year, Mr. Henry Morris, the President replying. "The Visitors" was proposed by Mr. Keetley and responded to by Mr. Beckett Sewell. Mr. Reginald Harrison gave "The Officers of the Society," which was replied to by Mr. J. Herbert Menzies, and Dr. A. H. Weiss Clemow, hon. secs., and Mr. T. Gunton Alderton, treasurer. At intervals during the evening several most enjoyable songs were ably rendered by Mr. Hunter and Dr. Campbell Pope.

Annotations.

"Ne quid nimis."

ALLINSON v. THE GENERAL MEDICAL COUNCIL.

WE reported in the last issue of THE LANCET the trial of this action in the Queen's Bench by Mr. Justice Collins. The case has excited little interest and was not even reported in some of the lay papers. Mr. Allinson himself does not pretend to care for the result. We not do see how he could. When a gentleman, week after week, in a newspaper, and for "ample" salary, gives advice to all inquirers; when he "seeks to attract practice by a system of extensive public advertisements containing his name, address and qualifications, and invitations to persons in need of medical aid to consult him professionally, the advertisements so systematically published by him being themselves of a character discreditable to a professional man"; when he denounces those who use drugs as little better than poisoners: he knows that he is making it impossible for even a liberal profession to retain him on its Register. Logically, he should desire to be free from all connexion with it. Be this as it may, the connexion has been terminated by the General Medical Council and the Court of Queen's Bench has found that the inquiry by the General Medical Council was honestly and properly conducted. It has dismissed Mr. Allinson's action to recover damages and to procure a declaration that the decision of the Council was invalid and also his request for a *mandamus* to restore his name to the Register. It has done this with costs against the plaintiff. The Court could not have acted differently. So long as the law recognises professions and provides bodies for dealing with gross breaches of professional conduct it owes it to such bodies to respect their decisions. Only two points were attempted to be made by Mr. Allinson's counsel—first, that a member of the Council was also a member of the body which instigated the inquiry before the Council, which was disproved; and, secondly, that the Council was prejudiced against Mr. Allinson on account of his opinions regarding drugs or vaccination. This, too, was easily disproved. These were not the offences of Mr. Allinson. The action of the Council will be approved by all who respect the methods of the medical profession. There is nothing to prevent a medical man from holding any views he likes about either vaccination or drugs; but, on the other hand, there is nothing to justify him week after week, in a weekly newspaper and for pecuniary considerations, in disparaging the whole medical profession and all its ways, and directing attention to himself as a superior person. If a profession has not the power to dissociate itself from such methods it may as well cease to exist as a profession. That is the view of all civilised communities and it is satisfactory to find it so fully accepted by our Courts that they do no more than satisfy themselves in any given case that the Council has acted in honesty and good faith. Even legal critics of the Council have admitted that the Council is an unlikely body to exceed its functions or even to exercise them to the full in repression of practices which clash with the spirit and the traditions of the profession.

AMBULANCE WORK IN PARIS.

FOR some years, but more especially since the Universal Exhibition of 1889, various efforts have been made to improve the ambulance service in Paris. In dealing with the cholera epidemic last year we described in detail the municipal ambulances and had occasion to speak of the ambulances organised by the Prefecture of Police. But, apart from the action of the public authorities, private initiative has also been brought to bear on this question. In July, 1889, at the Congrès d'Assistance Publique (poor relief), Dr. Mauriac, in a very eloquent speech, pointed out that there was no efficient means of helping persons who fell ill or met with accidents in the streets of Paris. M. Albin Rousselet, of the *Progrès Médical*, thereupon determined to found a society, which he entitled La Société des Secouristes Français. His efforts were seconded by the medical men attached to the Policlinique de Paris, and finally the Society was legally constituted. The Prefect of the Seine and the Prefect of Police have both encouraged these efforts, and this Society of Succour has now commenced its work. This consists in organising at the town-hall in each of the twenty arrondissements or districts of Paris a series of lectures delivered by medical men. The object of these lectures is to teach what should be done while waiting for the arrival of a medical man. Firstly, the pupils are given a general idea of the human body and the principal organs; then they are shown how to examine a person who is ill or wounded, how to stop hæmorrhage and make a preliminary dressing; asphyxia, syncope, convulsions and delirium are the next subjects, together with accouchements in the street; and burns, ordinary and venomous bites and the lifting and transporting of the wounded terminate the list. In all this the instruction is limited to what is necessary whilst waiting for medical aid. It is to be hoped that a large number of policemen will be able to attend these lectures, for they would have ample opportunities to apply in practice the lessons thus given. Several hundred persons, and notably skilled artisans, have undertaken to attend the lectures. Medals and diplomas will be delivered to those who, after examination, show the greatest proficiency. The Prefect of Police lends to the lecturers for purposes of demonstration the ambulance material of the various districts. The French Society of Succour hopes in time, however, to buy its own material, and proposes to deposit in druggists' shops, in the offices of large factories and other likely places, stretchers and whatever else may be judged necessary in case of accident. M. Albin Rousselet is to be congratulated on the good and useful work he has accomplished, for in the course of a year or two there will be several hundred persons in Paris who will have learnt how to help in cases of emergency. We would, however, make a further suggestion. Could not similar popular lectures be given on general sanitation, especially in relation to infectious diseases? The latter are more frequent and fatal than accidents in the streets, and the population of Paris is lamentably ignorant on such subjects. The paramount necessity of constant and ample ventilation, the danger and nature of sewer gases &c. are not understood or appreciated, and have been insufficiently taught.

HYGIENE IN THE BAKEHOUSE.

THE objectionable features of the old method of bread-making were fully described in a series of articles, entitled "Bakeries and Bread-making," which formed the subject of a Special Commission in the columns of THE LANCET three years ago. Distinct progress, it is satisfactory to note, has been made since then not only in the art of making bread but also in the direction of sanitary improvements in and around the areas where baking is done. The often filthy surroundings of the underground bakehouses and the carelessness of the operatives as regards personal cleanliness were of such a nature as to appeal forcibly to a bread-eating public, and to such a degree that it is hardly surprising that the supply of bread made under special hygienic conditions is steadily being insisted upon. Cognisant of these facts and fully alive to the desirability and importance of a pure and wholesome bread-supply,

Messrs. W. Hill and Sons have recently established a hygienic bakery, which, on the occasion of its inauguration on Saturday, the 1st inst., was open to the inspection of press representatives and others interested in sanitary progress. Each stage in the bread-making process of this new bakery is accomplished by means of machinery, and loaves absolutely untouched by hand are delivered into the wholesale department on the ground floor ready for delivery into the vans for distribution. The top floor is used as a storehouse for the flour, which is automatically measured and dropped into a mixer on the next floor. Here it finds its way into an ingeniously constructed mechanical kneader. The kneading process does not occupy long, so perfect is the mixing arrangement. The dough is then allowed to ferment, the process being started by first mixing the yeast that is employed with potato flour gelatinised by means of steam. On the same floor are the ovens, which are all of modern type. The rooms and bakeries are well lighted and ventilated throughout, whilst satisfactory provision is made for the personal cleanliness of the operatives. Thus in the basement of the building are to be found well-appointed sanitary arrangements, including baths, washing-basins, closets and urinals. We welcome the improvements that are manifestly taking place in an industry which was formerly a reproach to our metropolis, and the efforts of the pioneers of such a desirable movement as has just been indicated will be warmly commended by those who have any concern for the sanitary well-being of the community.

THE INTERNATIONAL MEDICAL CONGRESS.

OUR own correspondent, dating from Rome on the 1st inst., says:—"For the moment the International Congress gives place, in point of interest, to the Exposition of Medicine and Hygiene that will be held here at the same time. The latter, indeed, is the complement of the former, and by a wise provision future congresses of the kind will not be regarded as complete without a concurrently organised exhibition of the *matériel* of the healing art. It will be remembered that, for the convenience of those who cannot be expected to do justice to the various sections of the Congress and to the Exposition within the same week, the latter will open seven days earlier and close a fortnight later than the Congress—that is to say, its exhibits will be on view from Sept. 15th till Oct. 15th. For intending exhibitors there is still time to forward the articles or objects in which they wish to be represented, the last day on which such can be received having been postponed from June 30th to July 31st. Requests for programmes of the Exposition and for all information *à propos*, as well as announcements of participation in the Exposition itself, must be addressed immediately, "Al Presidente del Comitato, al Palazzo dell' Esposizione di Belle Arti, Roma." The committee's offices, I may add, will, until Sept. 15th, be open every day in the above-mentioned Palazzo from 1 P.M. to 4 P.M. The following classes will, in their *ensemble*, make up the Exposition: (1) Apparatus, *matériel* and plans of buildings for scientific and technical investigation in therapeutics, biology and hygiene; (2) apparatus, instruments and *matériel thérapeutique* in the various departments of medicine; (3) articles and appurtenances requisite in salvage service and in *assistance publique;* (4) plans, models and *matériel* bearing on school management and sanitary civic organisation (*riordinamento urbano*); (5) plans, apparatus and furniture for the purposes of the divisional surgeon in cities; (6) plans, models and *matériel* for hygienic constructions; (7) apparatus and furniture for hygienic uses in the interior of common dwelling-houses and public offices on every scale; (8) *matériel*, appliances and accommodation for the practice of personal hygiene; (9) plans, models and appliances for the hygiene of the working classes; and (10) books, atlases, photographs and such-like recently published and having reference to the medical, biological and hygienic sciences. In addition to these there will be a special class devoted to hydrology and balneotherapeutics, as also a special class for the Italian Red Cross Society with a view to the competition for the 'King Humbert and Queen Margaret Prize' instituted in 1892. Diplomas and medals will be bestowed on the best exhibitors by the Minister of the Interior and the 'Comitato dell' Esposizione' (exhibition committee). As to the International Congress itself, I have just received notice that the President (Dr. Guido Baccelli) has reinforced the organising and executive committee by the addition of the Commendatore Costantino Verde, 'Ispettore Medico' of the Italian navy, who (as already mentioned) will, as special delegate, represent that service at the Congress. This appointment will give general satisfaction, as it will have the desired effect of facilitating for the representatives of the navies of other Powers the fullest participation in all the advantages to be derived from the special discussions in the various sections bearing on sanitary interests afloat."

A CASE OF NARCOLEPSY.

IN the *Boston Medical and Surgical Journal* Dr. EWEN, of the United States Army, relates the case of a soldier who was charged with being asleep at his post whilst in charge of prisoners. Inquiry elicited the fact that his sleepiness was notorious and that it had on several occasions brought punishment upon him. He was well nourished and all his organs were apparently healthy. Mentally he did not seem to be lacking, although "not very bright" best described his condition. There was no suggestion of any predisposition to nervous disease in his family history and he had never been told that he was unusually sleepy before joining the army and serving in Arizona in 1888. He frequently fell asleep at meals, on one occasion with a spoon in his mouth. He had also been asleep on horseback whilst drilling, and at times it was so difficult to wake him that his comrades had to cuff him and roll him on the floor. There seemed to be no doubt that the condition was a genuine one. The treatment adopted was to give him regular out-door work of a light and easy character. Later he was placed on duty in the kitchen, where he had only two relapses into his old condition, and on these occasions he fell asleep and let the fire out and so delayed the meal. At his own earnest request he was soon allowed to return to his company and so far he has done fairly well; but he sleeps every afternoon, although he is able to wake himself. We have sometimes wondered whether Dickens had any knowledge of this as a distinct pathological condition when he described his immortal fat boy in "Pickwick."

SCOPE AND LIMITATIONS OF CEREBRAL SURGERY.

DR. KIRCHHOFF has contributed to the *Therapeutische Monatshefte* an article on this subject, a summary of which appears in a recent number of the *Revue Médicale*. He enumerates the varied conditions for which operations on the head have been proposed or carried out and indicates the reasons for and against operation in each one. Intra-cranial abscess, for example, is a condition in which the advisability of operative interference is not to be disputed, whether the abscess be due to traumatism or result from ear disease, and operation should be carried out as soon as the diagnosis is made. With regard to intra-cranial growths it is never easy to foretell whether a tumour producing certain symptoms is removable or not. Superficial encapsuled growths are naturally those offering the best opportunities, whilst deeper and more extensive ones do not present the same chance of recovery afterwards, and on account of the destruction of tissue and the risks

from hæmorrhage the operation itself is a formidable one. Epilepsy when the result of localised lesion of the cortex is practically the only form of this disease in which a good result is to be anticipated from operation. Hernia cerebri, Dr. Kirchhoff thinks, may be removed if situated anteriorly, as no paralysis appears to follow. It may also be possible sometimes to remove a small one posteriorly. Of course a condition such as hæmorrhage from the middle meningeal artery, if a result of injury, must be treated by trephining, and the same is true of the similar condition associated with pachymeningitis, although it is not easy of diagnosis. The large serous effusions associated with tuberculous meningitis, cerebral tumours &c. have been evacuated by trephining and puncture, and such an operation may, at least temporarily, relieve the patient. It is doubtful whether trephining for cerebral hæmorrhage would be practised even if the difficulty in diagnosing between that condition and softening could be overcome. Headache, if the pain be localised to some distinct tender point, offers a good opportunity for relief by trephining; but permanent benefit from operation in mental disease has still to be obtained.

THE ROYAL BRITISH NURSES' ASSOCIATION.

WE publish to-day, not without regret, a letter upon the subject of the charter of this Association, which bears the honoured name of Florence Nightingale, but on perusal turns out to be a contribution neither helpful nor timely to the now obsolete discussion concerning the Nurses' Register. We do not for a moment attribute to Miss Nightingale the authorship, in the English sense of the word "author," of the document to which her name is, amongst many others, appended; but an *auctor*, in the Latin sense, she unquestionably is, as being the most distinguished of the signatory parties to the document, and if only because of the great authority which, in all matters affecting the practice of nursing, her name most justly carries it becomes necessary to point out that she has on this occasion been misled into a serious misapprehension as to matters of fact and has been betrayed into lending her support to a most unworthy attack upon the Royal British Nurses' Association. These criticisms we shall proceed to make good, but let us first say that we do not in this connexion make any complaint of Miss Nightingale herself. She has long looked upon the active world from the distance which a sick-room interposes between the sufferer and those who toil. But with regard to the substance of the letter, it is written ostensibly to set forth three points which are of public importance "to prevent misunderstanding and to avoid misconstruction." The three important points are that (1) registered nurses will obtain no professional privilege by registration; (2) the list will have nothing in common with the registers of the medical or other professions; (3) registered nurses will have no right to use the title "registered nurse." Taking these in order, there may in the first objection be some intended subtlety in the use of the word "privilege," which strictly means an advantageous position before the law. If so, it is a sufficient answer to say that no nurse desires or stands in need of any professional *privilege* whatever. The practice of nursing is perfectly open and unfettered by the law. Unlike the practice of medicine or surgery, it is not prohibited to anybody, and there is therefore no room for *privilege*, in the strict sense of the word, in reference to its exercise. But what nurses have been united for in the Royal British Nurses' Association are professional *advantages*, and these they do secure, and will in the future secure in increasing proportion from the connexion. There is no reasonable room for doubt that the status of British nurses will be raised, their efficiency increased, and their social position and emoluments enhanced by incorporation into a professional body, any more than there is reasonable ground for mistake as to the great step which has been made in these directions by the founding of the Association and the work which it has already accomplished. The second statement is even more manifestly at variance with the facts than is the first. The list, which is declared to have "nothing in common" with the medical register, is described in the charter as "setting forth the names and addresses of nurses, with the names of the hospitals or institutions at which they have been trained and the length of training which each has received, thus enabling the public to form a more accurate judgment of the professional education and experience of the nurses so registered." Now the Medical Register is published under the provisions of an Act of Parliament which in its preamble recites that "it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners," and which in furtherance of this object creates machinery for the annual publication of a register in which the names, addresses, and qualifications of registered practitioners appear. There could not be a closer analogy than between these two registers. Differences, and important differences, of course there are, but these need not now detain us, for the parallel is not of our drawing, and we do not propose to elaborate it, but it is astonishing to find that a number of distinguished people can append their names to such baseless and pointless allegations as this that the new Nurses' Register has "nothing in common with the registers of the medical or other professions." The third point made is hardly even intelligible. That a nurse who is on the register of nurses will have no right to use the title of "registered nurse" appears to us to be a paradox pure and simple. Who would have the right to object to her so describing herself, or who would have any jurisdiction to enforce the objection, if advanced, we are not told, and in the meantime the charter itself, to which appeal is made, speaks of the nurses on the list of members as the "nurses so registered." In fact, an observation such as this does not even challenge examination. It must have been made wholly without reflection, and when considered even by itself, and apart from any view of the facts, it refutes itself. We have now placed before our readers our grounds for speaking of this as a contribution not helpful to the discussion. We have also described it as not timely, and that because, the charter having now been granted and the Association installed in the position which was so long and so strenuously disputed, it is plainly a matter of public interest that it should be left free to do as best it can the duty committed to its hands. Since the above was written we have received an effective rejoinder by the executive of the Royal British Nurses' Association to the attack made on them. This letter will be found in another column.

BATHING AFTER EXCESSIVE EXERCISE.

THE popular notion of the injurious effect of a cold bath taken by one who is overheated from exercise must possess—as all such ideas have—some basis in experience; and yet it is falsified by the experiences of athletes from the days of the Greeks and Romans even until now, who find in this procedure a refreshing and stimulating tonic after the exertion they have recently undergone. And, physiologically speaking, a cold plunge or douche taken immediately after the physical effort, when the skin is acting freely and there is a sense of heat throughout the body, is as rational as in the experience of the athlete it is beneficial. It is paralleled by the tonic effect produced by the cold plunge when the skin is actively secreting after a Turkish bath, and finds its rationale doubtless in the stimulation of the nervous system, in the increase of internal circulation, and also in the renewal of activity to the cutaneous circulation after the momentary contraction of bloodvessels due to the cold. The popular belief doubtless rests on the injurious effects which may be

induced by the bath in one who does not resort to it immediately, but allows time for the effects of fatigue to show themselves on the muscles and nerves and for the surface of the body to get cool. Taken then the bath is more likely to depress than to stimulate, there is less power of reaction and greater liability to internal inflammations. At such a time a warm bath rather than a cold one is more suitable and more safe. It has been suggested, however, that the practice of indulging in a bath after violent exercise may initiate renal disease. Of this there is no evidence. The transitory albuminuria observed after prolonged cold baths may indicate the disturbance in the renal circulation which ensues upon them, but these cases are in a different category from those to which we are now alluding, nor are we aware of any facts to prove that, even in them, Bright's disease has been developed in consequence of the transient departure from the normal. Lastly, it must be remembered that those indulging in athletic exercises of all kinds are presumably sound in heart as well as limb, and that such persons may take with impunity, and, indeed, with benefit, measures which would be distinctly harmful to the weakly.

MEDIÆVAL MEDICINE.

THAT life is short and art long, opportunity transient and judgment difficult, are truths which the experience of man has never contested since the days of Hippocrates and probably earlier, does not contest now, and, it may safely be prophesied, never will dispute. No less true is it, however, that the impatience of man is at least equal to the transiency of his opportunities, and in all ages, disregarding his infinite intellectual possibilities, he has tended to settle on the lees of current dogma—theological, philosophical or scientific—and to solace himself with some approach to definite conclusions. Much has been laid to the charge of the *odium theologicum* in having delayed the march of inquiry in the Middle Ages, and there is, without doubt, some truth in the assertion. We question, however, whether this would have been so powerful an impediment as it proved, had it not been for the impatience of men which gave rise to theories or opinions in which their originators could scarcely themselves have believed, for had the mediæval man had the conviction of honest belief it is scarcely credible that mere scholastic repression would have proved so potent a drag on the wheels of progressive reason as it did. In an article in the *Nineteenth Century* Mr. E. A. King brings to light many of the empirical remedies which were current in the Middle Ages. There seems reason for thinking that a certain proportion of these were based on the theory of suggestion. Thus a coward using a portion of the skin of a lion might gain courage from a recollection of the fearlessness of the original owner of the skin, although how a quartan ague could be cured by laying the Fourth Book of Homer's Iliad on the head of the patient is more difficult to imagine. On the other hand, that frogs should be good for ague seems to be quite as rational an induction as that willows should be good for rheumatism. Yet salicin has proved of use in the latter disease. The age of the empiric is the age of the charlatan, and it is not matter of surprise that the quack should in these days have frequently been met with and that his prevalence should have brought discredit on the profession of medicine in general. Dramatists have too often portrayed the physician only to point the finger of jest or of scorn at him. It is much otherwise now, although a great deal still remains to be done. The emancipated reason of man has placed medicine in the van of the progressive professions, but the charlatan is not yet extinct, nor is modern medicine quite devoid of that adhesion to fashion in thought which delayed the progress of medicine in the Middle Ages. Let us hope, however, that the experience of the intervening ages has at least taught one lesson—that of patience—in order that a profession dealing with problems of life and of death as wide as nature itself may avoid the dogmatism of fixed ideas and ever hold aloft, as it does to-day, the standard of freedom of thought in the quest for truth.

THE SCARLET FEVER EPIDEMIC.

ACCORDING to the *Echo*, Lord Portman has made a noble contribution towards the solution of the problem of inadequate accommodation for fever patients by handing over two houses in Marylebone for the reception of such cases. Let us hope that the example will be followed by other influential members of the community pending a satisfactory solution of the difficulty either by the Legislature or by the Local Government Board.

SIR WILLIAM HENRY BROADBENT.

IT is gratifying to see the announcement on the wedding day of his Royal Highness the Duke of York and the Princess Victoria Mary of Teck, that Her Majesty the Queen has been pleased to confer a Baronetcy of the United Kingdom upon Dr. William Henry Broadbent. It will be remembered that some two years ago, when the Duke of York suffered from an attack of typhoid fever, he was attended by Dr. Broadbent. This gracious act of Her Majesty will be heartily appreciated by the whole profession.

A SCOTCH SHERIFF ON SORE-THROATS AND MEDICAL BILLS.

SHERIFF CAMPBELL SMITH seems to have a low opinion of the intelligence of Englishwomen and of the uprightness of Scotch medical practitioners. He succeeded in condensing into a few sentences a great variety of disparaging, not to say insulting, observations in dealing with the claim of Dr. David Gardner of Paisley for £9 7s. 6d. in respect of a large number of professional visits in 1889 and 1890. He was specially eloquent on the unimportance of the existence of rashes on a baby's feet and of sore-throat—two complaints for which it is quite possible that many serious visits would have to be paid even in Scotland. He adverted on the imprudence of calling in a medical man for such trifling complaints—an imprudence which was explained by the defender's wife being an Englishwoman. He was kind enough to allow £3 for shoe-leather and 15s. for expenses. No wonder that Scottish medical men are so ready to take their talents to other countries, where the treatment of skin eruptions and sore-throats is more appreciated.

CONVERSAZIONE AT THE ROYAL COLLEGE OF SURGEONS.

THE Jubilee of the Fellowship of the Royal College of Surgeons of England was celebrated by a Conversazione in the College buildings on Wednesday evening the 5th inst. The guests were received by the President, Mr. Thomas Bryant, the Vice-Presidents and some of the members of the Council in the new large museum. The chief attraction of the evening was the collection of Hunterian relics in the library, arranged by Mr. Bailey. This was most interesting and attracted considerable attention. The collection was arranged in excellent taste and in such a manner that no difficulty was experienced in seeing the various objects. Several microscopical preparations, illustrating foraminifera and diatoms, and plates were shown in the council-room. The band of the Royal Engineers performed a selection of music during the evening, in the place of the Royal Artillery band, which was detained at Buckingham Palace. Refreshments were served in the inner hall and common room. The arrangements for the reception were well thought out, and there was a marked absence of the crush which was a noticeable feature of former conversaziones, advantage having been taken of the

recent improvements of the building. The floral decorations were numerous and attracted much admiration from the many guests.

It may be interesting to add that of the first 300 Fellows of the Royal College of Surgeons who were elected on Dec. 11th, 1843, ten only now survive to celebrate the Jubilee. Their names appear in the Calendar of the College in the following order: Dickinson Webster Crompton, Rutherford Alcock, K.C.B., Carsten Holthouse, Dennis Embleton, George Viner Ellis, Edward John Chance, John Chippendale, James Dixon, James Paget, Bart., and Henry Spencer Smith.

SANITARY MEASURES IN MONACO.

IN consequence of the spread of cholera in the south of France all that affects the sanitary condition of the winter health resorts on the Riviera is of more than usual interest. We are therefore glad to be able to record that in the principality of Monaco two important reforms have been accomplished. The water-supply has been increased and the notification of infectious diseases has been rendered compulsory. The population of Monaco and the number of visitors have increased so wonderfully of late years that it has been a matter of considerable difficulty to obtain sufficient water. Naturally the authorities do not care to go beyond the frontiers of the principality for their water; on the other hand, every available inch of ground within the principality is taken up for building purposes. According to the census of 1892 there were 13,000 permanent residents in the principality, and this shows that the increase since 1888 amounts to 3137. It is not, however, the permanent residents, but the many visitors who crowd the principality. During last May, in spite of the exceptionally hot and dry weather, 38,985 visitors went to Monaco. In April last, before the end of the winter season, 60,833 persons arrived at Monaco, and this shows an increase of 10,732 visitors for the month if compared with April of 1892. To meet the requirements of the ever-increasing number of residents and visitors the Government has for some years studied the question of the water-supply. Soundings have been made near the ancient spring of Larvotto, close to the sea-shore in the Bas Moulin district, and finally a supply amounting to from 2700 to 2900 cubic metres per twenty-four hours was obtained. This water is raised by hydraulic pumps to the reservoirs of La Tour, whence it can be conveyed to the houses by means of pressure. The works were completed and inaugurated a few weeks ago, and the engineer, M. Bourdoucle, who had the direction of this public enterprise, was congratulated by the Prince and Princess of Monaco. There are two independent sets of pumps, each capable of raising 3133 cubic metres of water per day, so that in the event of an accident to the machinery the water-supply would not be stopped. The water itself, according to an analysis made in the Paris Municipal Laboratory, is thoroughly wholesome and pure, and this new supply, added to that already existing, will suffice to meet present requirements. A special decree recently issued by the Sovereign Prince of Monaco renders obligatory the notification of infectious diseases, including not only cholera, typhus fever, enteric fever, scarlet fever, diphtheria and small-pox, but also measles, puerperal fever, scurvy, "suette miliaire" and all other diseases likely to assume an epidemic character. Article 2 of the decree imposes on all medical men the duty of informing, "verbally or by writing, the Government or the Commissioner of Police" whenever any such infectious cases occur in their practice, and the notification must be made within twenty-four hours. In default of a medical man, the parents, the nearest relative or the persons attending upon the patient must give notice if they believe the case to be infectious. Article 5 imposes the same obligation on all hotel and lodging-house proprietors. The penalty for non-compliance is a fine of from 16 francs to 500 francs or imprisonment of from six days to six months. When the notification has been made the sanitary measures prescribed by the Government must be strictly carried out by the family or the persons with whom the patient lives, and the penalty for any neglect is a fine of from 16 to 200 francs; or if the offence is repeated imprisonment of from six days to two months. In the face of the above decree visitors to the principality need no longer be under any apprehension of contracting an infectious disease. It is not likely now that such cases will be concealed, and the rooms will therefore be disinfected before they are let to other tenants.

THE PROGRESS OF SMALL-POX.

A FURTHER and a distinct diminution in the general prevalence of small-pox has been evident during the past week. Fresh attacks have occurred in a number of places—e.g., at Bradford 16, Birmingham 6, Oldham 4, Salford 3, and West Ham 12; in other places the attacks have been single ones or a few only, such as at Accrington, Blaby, Bristol, Brierley Hill, Blackburn, Bootle, Burnley, Burton-on-Trent, Chadderton, Croydon, Elland, Halifax (where the number in hospital is now 41), Heckmondwike, Keighley, Hanley, Hull, Leadgate and Darlington, Leeds (where 79 cases are still under treatment), Liverpool, Manchester, Middlesbrough, Nelson, Oldbury, Paisley, Plymouth, South Croxton, South Shields, Sunderland, Smethwick, Tottenham, Walsall, and Withington. The disease still clings somewhat tenaciously to Leicester and the town council are now beginning to learn that no "system" is proof against the occurrence of unrecognised cases, which constitute as much danger as, if not more than, the recognised ones. The majority of the Leicester people have been once vaccinated, and when small-pox is modified by a prior vaccination it often needs extreme skill to ensure a correct diagnosis. Indeed, some of the most expert fail in this respect, and we have more than once expressed the opinion that this would be found to constitute one of the greatest of the difficulties to be contended with in Leicester. Now Mr. Alderman Windley, one of the staunchest supporters of the Leicester "system," reports to the town council, firstly, that one such unrecognised, and hence unreported, case has given rise to no less than 23 others; secondly, that another similar case has given rise to 9 others; and, lastly, that a serious outbreak has occurred at Newfoundpool, where 9 cases occurred last week. According to the local press the majority of the cases have occurred in the cottages nearest to the hospital; it is taken for granted by many that the outbreak is due to diffusion from the hospital, and some are already demanding the removal of small-pox cases into the country. There were 352 cases of the disease under isolation by the Metropolitan Asylums Board on the 3rd inst.

IN Italy the Universities seem to be wellnigh unanimous in choosing their rectors from the medical faculty of the Senatus Academicus. We lately announced that Siena had elected to that post Professor Barduzzi, who holds the chair of Dermatology. Pavia has now followed suit, having elected Dr. Golgi, Professor of Pathology, by a decisive majority over two formidable candidates, Signor Moriani, Professor of Roman Law, and Signor Canna, Professor of Greek Literature.

ON Wednesday next, July 12th, his Grace the Duke of Fife, K.T., will occupy the chair at the Grafton Galleries, Grafton-street, London, on the occasion of the prize distribution of the Association for the Oral Instruction of the Deaf and Dumb. Her Royal Highness the Duchess of Fife will distribute the awards and a short illustration of the system of teaching will be given.

DR. A. POLITZER, Professor at the University of Vienna, was, by the decision of the Minister of Public Instruction, nominated as the official delegate of the Austrian Empire for the Medical Hygienic Section in the exhibition at Chicago. Dr. Politzer will proceed to America on July 25th.

BRIGADE-SURGEON-LIEUTENANT-COLONEL KENNETH MCLEOD, M.D., F.R.C.S. Edin., will, we understand, succeed Deputy-Surgeon-General S. B. Partridge, F.R.C.S. Eng., as a member of the Indian Medical Board.

DR. HECTOR W. G. MACKENZIE, M.A., M.D. Cantab., M.R.C.P. Lond., has been elected an Assistant Physician at St. Thomas's Hospital.

WATER-SUPPLY:

CHEMICAL AND BACTERIOLOGICAL EXAMINATION.

THE recent long-continued period of drought has turned the attention of the inhabitants of London to their water-supply. Unfortunately there are so many different ways of looking at the question, so many interests are involved and so many different opinions call for support that it is difficult for anyone who is not well posted in several branches of scientific investigation to arrive at anything like an accurate conception as to the necessity for constant vigilance in the supervision of a water-supply. On the one hand, we have the practical man and the statistician, who tell us, because certain things have happened or have not happened under conditions which it is supposed that we are fully acquainted with, that, assuming that these conditions remain constant, the results will therefore remain the same. To these it is necessary to put the question, Can a continuance of these conditions be assured to us for all time? Then there is the chemist, who with his delicate methods is able to perform most accurate analyses as to the amount of carbon, nitrogen and oxygen contained in any sample of water; so beautiful are his methods and so accurate are his results that there is a danger of our being led away and of our accepting his theories and his interpretations of facts as being necessary corollaries of the accuracy of his methods. Still we are not astonished to find that the practical man and the chemist disagree when it comes to be a question of the interpretation of facts, and at this stage we are not startled to find that even chemists cannot agree amongst themselves on certain, not elementary, but essential facts.

Nowadays the bacteriologist, as well as the practical sanitarian, advances a claim to be heard on this important question. He affirms that water under certain conditions is dangerous to the health of the community when consumed, not because of the amount of certain chemical elements entering into its composition as a result of its passage over certain ground, but rather because it has received or contains certain kinds of substances or combinations of elements which render it a suitable medium for the growth of certain specific micro-organisms, and, more important still, because on its way to the consumer it has been subjected to fouling by materials which may contain the germs of certain specific infective diseases.

It is evident that every expert may claim too much for his own particular science or art, and it is equally clear that nothing is to be gained by one belittling the work of the other. The practical sanitarian and the chemist, who have both done such excellent work in connexion with our water-supplies, had reached the limit of their methods of improvement until the bacteriologist came to their assistance; with his help, however, they have been able to make fresh departures, whilst others are promised. For instance, the whole practice of sedimentation and filtration as now carried on is based largely on work done and suggestions thrown out by the bacteriologist, who has gone so far that he recognises the fact that there is still much to be done in his branch of work before the full meaning of the presence of certain organisms in water can be arrived at—a long and careful study of the conditions under which pathogenic organisms can exist in water being necessary before it is possible to suggest further and efficient, but perhaps simple, safeguards for the protection of the water-drinking public against accidental contamination of our water-supply.

Unfortunately there can be no doubt that loose statements have been made by some who have attempted to study the bacteriology of water and an amount of discredit has been thrown on the subject and the methods used which should really have been fixed upon the shoulders of the workers. In the existing state of affairs the main principles that should guide sanitarians and engineers are often difficult to reach, being in the minds of most men undecided and ill-defined; one set of men or one "board" rests its faith on chemical processes of sedimentation, another on sewage farms, another on some form or other of filtration, and so on through the whole gamut of expedients and nostrums. Isolated improvements are made and temporary or even permanent benefit is gained, but no effort is made to reach the root of the matter. At present, filtration—the demonstration of the importance of which has been due mainly to bacteriologists or to the principles on which bacteriologists have worked—is laid down as the panacea for all evils that can accrue to mortals through a consumption of water. Whilst granting that filtration is, as it most undoubtedly is, one of the most important safeguards that has yet been introduced, we cannot close our eyes to the risk that it may so far mask dangerous conditions that the presence of these may not be realised until serious damage is done through a temporary breakdown of an otherwise efficient protective barrier.

At present it appears to be absolutely unavoidable that a large number of our populous districts should be supplied with river water which, under existing conditions, is open to direct contamination with the crude sewage from large areas inhabited by human beings. The first question we must ask ourselves is, Are these conditions removable? This question can only be answered in the affirmative; and at whatever cost this may be done the saving to the State directly and indirectly would in a short time more than cover the outlay. So long as there is any risk of typhoid excreta finding their way into water which may, in the course of a week or ten days, be supplied to a large number of consumers, so long is there a danger of an outbreak of typhoid fever, though only one patient may be infected directly through the agency of the water. Sewage matter in water is not merely objectionable from the æsthetic or sentimental point of view; it is a danger signal, to the presence of which we can never afford to shut our eyes. The fact that the typhoid bacillus can live a shorter time in sewage than in pure water has little to do with the question, nor has the fact that running water is to a certain extent purified. All this may be very true; but if no sewage had obtained access to the water-supply no typhoid bacillus could be there, and therefore all arguments based on the effect of different kinds of water on the typhoid bacillus in this connexion are entirely beyond the question. It should never have been claimed that water is the only medium through the agency of which typhoid fever or cholera may be spread; but the fact that the foci from which epidemics have spread have in many instances had their etiology determined by water-borne sewage cannot be ignored. The purest water—that is, pure from a chemical point of view—may, if contaminated with a trace of organic matter from a sewage-polluted source, under certain specific conditions, be infinitely more dangerous

than water heavily charged with organic matter, it may be, also from sewage pollution; the difference in the two cases being that in the one there is a specific infective material carried in a minute quantity of sewage, whilst in the other the sewage may, by good fortune rather than owing to any precautions that may have been taken, remain for a considerable time free from any specific infective virus. No one, however, would argue against the right of the chemist to condemn the much polluted water as unfit for use, and before long few will be found to argue against the evidence adduced by the bacteriologist.

By all means let the water companies continue the good work they have commenced; let them make their filters more perfect, their storage more extensive, but do not let us be content to leave the whole of the work to them. A water-supply must be purified at its source; if necessary the river commissioners or some similar body must be invested with executive powers of a very wide-reaching and comprehensive nature. As more evidence is accumulated these powers will become better defined, and it is not too much to anticipate that before long the number of deaths from enteric fever must become very much diminished, whilst we have already sufficient knowledge of the conditions under which cholera spreads—if we only use our knowledge—to nip in the bud—or, at any rate, to prevent the extension of—every outbreak of cholera that may make its appearance on our shores. Whether we shall be able to utilise our knowledge in this matter still remains to be proved.

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

THERE is not much, we are glad to say, to be chronicled this week in regard to the progress of cholera. The outbreak at Mecca has evidently been very serious, for the total mortality amongst the pilgrims since early in June last has been upwards of 5000. The severity of the epidemic is stated to have somewhat declined of late, although the number of fresh attacks and the death-rate still remain high. On July 3rd 260 deaths from cholera occurred at Mecca and 490 at Jeddah. These large gatherings of Mussulmans are a recurring source of danger, and the arrangements for them should be placed under Government control, as is done in the case of the great religious fairs and pilgrimages in India. In addition to the evils of dirt and overcrowding, the pilgrims are usually exhausted from fatigue and want of proper food, their water-supply is probably both bad and inadequate, and there is, speaking generally, an absence of all sanitary and medical arrangements.

The way in which the present epidemic of cholera has comported itself in France has been somewhat exceptional. Further particulars with regard to it will be found below in our special correspondent's communication on "Cholera in France." From Madrid we learn that several cases of cholera have recently occurred at a village in the province of Gerona near the French frontier and that four deaths have taken place; but the public health of Spain is generally satisfactory.

CHOLERA IN FRANCE.

(FROM OUR SPECIAL CORRESPONDENT.)

A VISIT TO TOULON.

The Present Outbreak of Cholera.—The Cholera at Marseilles, Alais, Cette and Carcassonne.—The High Death-rate at Toulon.—The Prevalence of Typhoid Fever.—Insusceptibility of the Natives to Typhoid Fever.—The New Water-supply.—The Drainage Difficulty.—Water-logged Soil.—The Proposed Mechanical Methods.

EVENTS, unfortunately, have justified all that has been said in the course of these notes on cholera concerning the absolute necessity of improving the sanitary conditions of Marseilles, Toulon and Arles. The past history of these towns led me to describe them as dangerous centres. Present events confirm this description, for already two out of the three towns are the principal seats of the cholera epidemic. The condition of affairs at Alais, which seemed for a moment to be very threatening, no longer causes any anxiety, and the attention of the Public Health Department of the French Government is more especially directed to Toulon and Marseilles. For some time past there have been no further cases of cholera at Alais. Hopes are entertained that the epidemic is over in that town, but it has caused 115 deaths, which is equal to 4·7 per 1000 of the population. It was on May 20th that the epidemic commenced at Alais and at Marseilles. There were, however, but five deaths from cholera at Marseilles during the month of May, and these all occurred in the Asylum of St. Peter; it was not till June 12th that the disease appeared in the town itself and since then there have been about seven deaths per day. The total number of deaths at Marseilles due to cholera, occurring between June 12th and July 3rd, amounted to 138.

At Toulon the epidemic has progressed more slowly, but one or two deaths occur per day. The first case was reported on June 3rd, and up to July 3rd there had been fifty-one deaths there from cholera; but in the immediate neighbourhood, at La Seyne, seventeen more deaths have taken place. Indeed, the worst feature of the epidemic so far is the spread of the disease to small villages, where the sanitary conditions are most primitive and where there are no means of disinfection. In such villages the mortality, in proportion to the population, is very high, and there are already a great number of places infected. Cases of cholera have been reported from about eighty different localities in the south of France. On the other hand, the disease has quite disappeared from the north-west of France—the Morbihan, Quimper, Lorient &c.—and the assertion that there were cases of it at Calais is officially contradicted. In the towns the disease has not yet developed with much rapidity. The heat has been intense, but it was also very dry, and the latter circumstance may account for the slow progress of the epidemic. At Carcassonne, in the Aube, the situation is stationary; there have been, in all, 16 deaths, and 53 at Cette. Altogether, since the commencement of the present epidemic—that is, since the beginning of the month of June—up to July 3rd, I learn on undoubted authority that the deaths from cholera in the south of France amount to 704.

Like Marseilles and Arles, Toulon is one of the most unhealthy towns in the south of France. Here cholera has claimed countless victims since its first invasion, and this is an indication of the extreme unhealthiness of the town. The general death-rate, moreover, indicates a far greater and equally needless loss of human life. The general mortality at Toulon from 1881 to 1890 was equal to 37·3 per 1000 per annum of the population. If from this the two years of the cholera epidemic are deducted—1884 and 1885—the average death-rate would be reduced to 34·7 per 1000. But there is no need to make this deduction. It is only natural that such a town as Toulon should suffer from cholera epidemics. It is, however, instructive to note how high the death-rate is even apart from cholera. Cholera, about which so much has been said and such intense alarm experienced, is responsible for increasing the average death-rate during the ten years to the extent of 2·6 per 1000 per annum. But the average death-rate at Toulon from typhoid fever is equal to 1·85 per 1000 per annum, and in this respect Toulon ranks next to Havre as the worst town in France. Yet it is well known that no permanent resident of Toulon dies from typhoid fever. This curious and significant fact I described when writing about Toulon some eight years ago. Dr. Galliot of the French Navy brought this forward in an essay for which the Government awarded him a gold medal. On calling the other day upon him he again confirmed the fact. The natives of Toulon seem to be proof against typhoid fever. The children between the ages of three and six years, with but few exceptions, suffer from what is called in France *fièvre muqueuse*—an ill-defined fever which, though rarely fatal, confers immunity from typhoid fever. Dr. Galliot has demonstrated that since 1854 no native of Toulon has died from typhoid fever unless he had lost his immunity by living for several years in a thoroughly healthy town and then returned to the impurities of his native town. The victims of typhoid fever at Toulon are the strangers who come to live there; of these, of course, the greater number are soldiers. Indeed, it was more dangerous for a battalion to be quartered at the Mourillon barracks than to be sent to

face the enemy. From 1854 to 1889 no less than 3137 soldiers died from typhoid fever at Toulon. The mortality from that disease amongst the troops quartered in the town was five times higher than the general typhoid fever mortality throughout the French army. Now that some remedies are being applied these facts are becoming more generally known; but for very many years the French military authorities, instead of actively seeking to remove the very obvious sanitary defects that existed, contented themselves with concealing the disastrous result. It was urged that facts concerning the high mortality amongst the troops quartered at Toulon should not be published, as it would cause distress and anxiety to the families of the soldiers. Dr. Galliot is now, however, sanguine that the worst days are over. Typhoid fever, he maintains, has decreased to a very great extent at Toulon, and this he attributes principally to the improved water-supply. A new water-supply, taken from the rocks and collected from ninety to a hundred feet below the ground, has been secured. It is totally free from all bacteria and is brought to the town in iron covered pipes. This is known as the Ragas supply, is situated at a distance of about three miles from Toulon, and is collected in a reservoir built on the slope of the Faron mountain at an altitude of about 300 feet.

M. François Coreil, Director of the Municipal Laboratory and Member of the Council of Hygiene, has recently made bacteriological researches to ascertain the degree of purity of the water-supply. The results of his investigations are published in the June number of the *Annales d'Hygiène Publique*. But, before dealing with the question of the purity of the water, it is necessary to say a few words as to the water consumed in Toulon previously to 1887, when the Compagnie Générale had the monopoly of the supply. There exists some five miles north, in the valley of the Dardennes, an abundant spring, whence flowed the rivulet called the Dardennes. Water diverted from this rivulet constituted the *béal*, which is a canal built for purposes of irrigation and also to supply motive power to several mills. There was another canal made of masonry which brought from the same source the drinking-water supply. This latter canal, during a great part of its course, was placed below the *béal*, but so close that water from the *béal* could easily pass through the rough masonry of the aqueduct conveying the drinking-water. Now the *béal* is the general rendezvous for the Toulon washerwomen, and into the *béal* also are thrown the excreta from neighbouring houses, for many of these dwellings do not possess any closets. Thus the drinking-water aqueduct was constantly contaminated by the *béal* which runs by its side but at a higher level, and in which all the dirty linen of Toulon is washed.

Another supply came from the spring of St. Philippe, to the north-east of the town, about 1300 feet from the cemetery and at a lower level. Round about this spring there are many cottages and cesspools, and the gasworks are within 200 feet. Attached to this spring and well there is a steam engine which can raise ten litres of water per second. Apart from these two sources of supply there were innumerable small private wells. That the water-supply of Toulon should have been contaminated during the great cholera epidemics of 1884–85 is not surprising, and it is also quite natural that the drinking of such water should render typhoid fever so prevalent. Now, however, we have the Ragas supply, which generally yields 150 litres per second. There are two reservoirs. The highest holds 9000 cubic metres of the Ragas water. Lower down, 420 metres to the south of this upper reservoir, there are four reservoirs side by side, each of 5800 cubic metres capacity, and placed at about 160 feet above the sea level. This lower reservoir is called the St. Antoine Reservoir, though it is about 100 feet above the St. Antoine spring. In the summer, however, when the Ragas supply is deficient, the St. Antoine water is pumped up into this reservoir. This water is of course not contaminated as in the days when it flowed in a leaking aqueduct below the *béal*, still it is open to criticism. It comes from low-lying land much nearer to the town and about a mile and a half from the city walls. Though the land in the immediate neighbourhood is not actually built upon, it is highly cultivated and well manured. Some of the manure employed consists of actual sewage. Fortunately the spring is very deep, so that the water undergoes a process of natural filtration. Nevertheless bacteriological examinations have shown that this water occasionally contains the bacterium coli commune. It is most unfortunate that this questionable water should occasionally be mixed with the Ragas supply. Nevertheless M. François Coreil concludes from his numerous bacteriological experiments that the waters of the Ragas and of St. Antoine are pure when taken at their source; but there is a window at the lower reservoir that admits dust blown from the town. On examining the water taken from this reservoir on a windy day, when dust could be seen on the surface, he found both the bacterium coli commune and also the bacterium Escherich. The St. Antoine spring did not contain more microbes than that of the Ragas; but in two experiments out of five the bacterium coli commune was detected. This is due to the manuring of the fields, for the St. Antoine is the same watershed as the Ragas, only collected lower down the mountain side and where there are cultivated fields or market gardens. It is most urgent in any case that measures should be taken to prevent dust entering the reservoir, and it would be well if the St. Antoine supply could be abolished or measures adopted to prevent the manuring of the fields in the immediate neighbourhood of the spring. The St. Philippe supply has already been suppressed. Though very conveniently situated and provided with a steam engine to raise the water, the contamination was so evident and constant that the St. Philippe well is now rarely, if ever, used.

The soldiers of some portion of the garrison had often been supplied with impure water alternately with pure water. Since the wells that formerly supplied the barracks with water have been closed typhoid fever has greatly decreased. Cases still occur, however, and typhoid fever is occasionally contracted in the suburban district known as the Pont de l'Arse, but here there are many private wells. These are generally in the entrance passages of the houses and are only from sixteen to twenty feet deep. There is also some danger in drinking well-water in small taverns, but as a rule only the town water-supply is used. A large portion of the Italian or Piedmontese colony dwell in the Pont de l'Arse district; these are estimated at 10,000 in number and do all the heavy work—the navvy's work connected with the port, the arsenal, the roads and the forts. Many of the houses where these Italians live, notably in the Rue Navarin, are below the level of the street. To the danger of drinking well-water is added the risk involved in living in damp houses, and it is not surprising that many of these Italians fell victims to the cholera epidemic of 1884. In the following year a great number of persons holding good positions and living in better-class houses died from cholera. The Controller-General, or Chief Auditor of the Navy, died from this disease. Amongst others holding high positions were Dr. Signoré, a man who had led an exemplary life and was much regretted; M. Siette, a marine commissioner, his wife and two daughters; the chief cashier of the Bank of France, and many others. The wealthy quarter of the town, though situated on a higher level and to outward appearance healthier, was infected by the large number of cesspits—*puits perdus* or *bétoires*—that is, pits into which slop water is drained and which are purposely made as porous as possible so that the foul water may drain away through the subsoil. As there were also wells close to these leaking cesspits, the wealthy quarter was not exempt from typhoid fever and cholera. Now, however, the necessary lesson has been learnt. Nearly every householder has subscribed to the town water-supply, and only a few persons still continue to drink water from wells.

Though a better water-supply has thus improved the sanitary condition of Toulon, this will not, and recent events prove that it has not, sufficed to ensure immunity from cholera. Indeed it is necessary to protest against a growing tendency to attribute cholera almost exclusively to the contamination of the water-supply. The recent great epidemic at Havre, to mention but one instance, could not in any way be attributed to contaminated water, and all who are familiar with the causes and history of cholera must protest against theories which would lead local authorities to rest satisfied when once they had secured a good water-supply. Good drainage is of at least equal importance, and in this respect Toulon is as badly off as ever. Cesspools and movable pails exist there, but practically the principal system of drainage is that of throwing everything into the gutter. Dr. Brouardel very accurately described Toulon as being built on a *sol fécalien*, and it will never be a healthy town till a complete system of drainage puts an end to the contamination of the subsoil; but it will be a matter of exceptional difficulty to drain such a town. Some of the streets are so narrow and the houses so old and so high that if trenches were dug to lay sewers at any depth the safety of the

buildings would be compromised. Apart from this consideration, the lower portion of the town is on a level with the sea. For foundations some of the houses are built on piles which are driven through movable sands. Many schemes for the draining of Toulon have been drawn up, but all schemes that depend on the ordinary system of water carriage by gravitation present two fundamental defects. Firstly, some of the most important main sewers have an insufficient fall, and secondly, even to secure this inadequate fall, it is necessary to dig down to the water level and to build in water. To obtain a flow of 75 centimetres per second in the main sewer, considering the size it is proposed to construct it, it should have a fall of 0·003 per metre. To secure such a fall it would be necessary to dig a trench in the Cours Lafayette to a depth of 2·58 metres, but water is reached at less than a metre below the surface. In the Rue Saint Cyprien the depth of the sewer would be 3 metres 35 centimetres, and of this depth 2 metres 50 centimetres would be in water. Altogether it is calculated that sewers to the length of 1500 metres would have to be built in water. It is needless to say that this would be at once very difficult and expensive. A sewer requires a firm foundation, otherwise the flow will be interrupted by sinkage, and as the masonry gives way leakage must inevitably occur. Then, again, there is a third and very important obstacle—there is no convenient general sewer outfall near Toulon. Technical commissions have studied the matter, many investigations have been held, and in the end the general outcome of it all is that the point selected is the extremity of the peninsula of Cépet, which is at a distance of nine and a half miles from Toulon; but as a great part of the town is on a level with the sea it is impossible for the sewage to travel such a distance by gravitation unless a fall is created by raising the sewage. Under these exceptional circumstances Toulon has from the first been prominent as the town of all others where the application of some mechanical method of drainage would be most justifiable.

After some opposition, which is but natural when new methods and ideas are proposed, the Toulon municipal council appointed a subcommittee to visit England and study the Shone system of drainage as applied to the town of Eastbourne, at the Houses of Parliament, and at other places. The result has proved entirely satisfactory, and now the Toulon Municipal Commission are in favour of applying the Shone system to their own town. All the difficulties as to unsound foundations upon which to build the sewers and as to insufficient fall would be obviated by this system. Wherever the fall was insufficient it would only be necessary to place Shone ejectors, which, as is well known, automatically raise the sewage into a sealed drain situated at a higher level. Still the plan actually submitted suggests the employment of only four of these ejectors in order to raise the sewage as it flows past the water's edge by the side of the old port and the docks of the lowest part of the town. After leaving the town the main sewer would have to take a circular course round the Bay of Toulon, passing by La Seyne, an industrial district which has a population of 12,000 inhabitants, and where recently there have been several cases of cholera. From here it would cross the isthmus of the Sablettes by the Col Fabre, where it would reach an altitude of 14 metres (46 feet) above the level of the sea. That sewage can be propelled upwards by the Shone system has been fully demonstrated at Henley-on-Thames, where it is gradually raised 124 ft.; but at Toulon, when once the Sablettes are reached, it can be allowed to continue the rest of the journey by mere gravitation till it reaches the proposed outfall at the end of the Cépet peninsula. Such, briefly, is the scheme which seems to be in a fair way of adoption at Toulon. The successful result of the application of the system under somewhat similar circumstances at Rangoon renders it quite safe to encourage its trial at Toulon. It will certainly prove the cheapest method of draining the town and that which can be most promptly applied, which is a matter of no small concern. For my part, having an experience extending over many years of the lengthy discussions and delays that arise, especially in the towns of the south of France, whenever any general sanitary reform is proposed, I repeat here what I have said with respect to Marseilles: that any system of general drainage, even the worst, is better than none at all. I am convinced that if all that has been said against the Marseilles scheme is correct, its adoption will nevertheless prove to be of immense benefit to that town. The Toulon scheme differs theoretically in many important points from that of Marseilles, yet I can speak with equal confidence of the former. Let the Toulon scheme be adopted and, if all that its adversaries have said against it proves true, still it would be of great benefit to the town. The greatest fault, the greatest blunder, that towns in such a deplorably insanitary condition as Toulon can commit is to delay the execution of a general scheme of drainage.

THE LATE MEDICAL COMMISSION TO BENGHASI.

WE have received a copy of the report of a Medical Commission sent by the Maltese Civil Government in April last to Benghasi to investigate and report upon the nature and causes of an epidemic disease alleged to have been raging there. The Commission in question consisted of Surgeon-Captain M. Louis Hughes, of the Army Medical Staff, and Dr. D. Vella. Their report, which furnishes a clear and lucid description of the epidemic, is divided into four sections. Section 1 is preliminary. Section 2 gives a good topographical report of Benghasi and Derna, illustrated by a map. Section 3 deals with the hygienic and sanitary condition of those places; and the fourth or concluding section gives a detailed medical report of typhus fever in the Mediterranean and the medical history of Benghasi, together with the history and characteristics of the epidemic, which proved to be one of typhus fever. A map illustrative of the statistics and distribution of the disease accompanies this section of the report. True Oriental or bubonic, plague existed in Benghasi as a terrible epidemic in 1858–59 and again at Merge, between Benghasi and Derna, in 1874. Cholera has also visited Benghasi more than once, notably in 1850–1854 and less severely in 1855.

As regards the origin of the recent epidemic at Benghasi, it appears that towards the end of November and the early part of December, 1892, cases of typhus fever were present amongst the Bedouins of the interior and sporadic cases occurred amongst the Arabs in the town itself. Its appearance in an epidemic form at Benghasi just before Dec. 13th was shortly after the arrival there of a large number of Bedouins from the interior. It was estimated that between Dec. 13th and February as many as 20,000 Bedouins arrived and encamped close to and even amongst the houses of Benghasi. They were in a famine-stricken condition owing to failure of the crops, the result of three successive years of drought combined with visitations of locusts. A virulent form of contagious fever with excessive mortality was observed towards the end of December amongst the encamped Bedouins, which in January of the present year became very severe and spread to the town, reaching its height amongst its Arab population about the latter half of that month. The disease also spread to the Christian community and reached its maximum of intensity amongst them from about the middle to the end of February. As indicating the great influence of overcrowding in developing the spread of the disease it may be mentioned that, whereas the departure of many Bedouins during the first week of February was followed by a temporary decrease in the prevalence of the disease amongst the Arab population, a fresh outbreak occurred in the town on the further arrival of Bedouins towards the third week of February. The alarm caused by this increased prevalence of the disease, combined with the scarcity of money and trade, caused the exodus of many of the Christians, and about the end of February the Bedouins left permanently, whereupon the prevalence of the disease began rapidly to decrease. From the report we learn that the disease was undoubtedly a severe type of that highly contagious malady known as "typhus exanthematicus" and attributable to famine, misery, overcrowding and insanitation. Its prevalence was in exact proportion to the amount of overcrowding and also indirectly to the amount and continuance of cold and rainfall from their effect in confining the people to closed up rooms and tents. The disease spread from house to house in regular succession of streets. The cessation of the epidemic, which lasted from December to the end of March, was synchronous with the cessation of overcrowding, the enforcement of primitive hygienic measures, and the advent of dry, warm weather. The occasional occurrence of parotitis, boils and axillary abscess erroneously led to the rumour that bubonic plague had broken out in Benghasi. Although the epidemic is now over, it is impossible

to say that it may not recur next winter, when similar conditions of overcrowding will probably again prevail, especially if the present state of insanitation and poverty continues to exist in Benghasi.

RUDOLF VIRCHOW.

Address delivered before the San Francisco Medico-Chirurgical Society.

BY LEVI C. LANE, A.M. M.D. BEROL., M.R.C.S. ENG.,
PROFESSOR OF SURGERY IN COOPER MEDICAL COLLEGE, SAN FRANCISCO.

AMONGST the names of men who have lived in the nineteenth century, and who are destined to live in human memory, is that of Rudolf Virchow. Most men who have earned distinction have done so by concentrating their energies in one direction; the striking characteristic of Virchow is that he has reached eminence along several lines, and so much so that had his labours been confined to any one of these he would still have made himself famous. Teacher, writer, pathologist, politician, each and all has he been, and in later years he has also been an investigator in anthropology and in archæology. The medical studies of Virchow were pursued in Berlin, where he had the great advantage, of coming in contact with Johannes Müller, from whom he imbibed that inspiring enthusiasm for medicine which has since incessantly animated the receptive student. His successful career as a student soon indicated his fitness as teacher, and he would at once have been given a position in the Faculty of the Frederic William University had he not at that time developed qualities which have ever since been predominant characteristics—viz., those of active political partisanship; in this *rôle* the part he has played has been a famous one, that of opponent to the policy of the Prussian Government, and this adverse position to the ruling Power threw so many barriers in his way to advancement that he sought in Bavaria a more friendly field, and there he was honoured with the Professorship of Medicine in the famous school of Würzburg, where he had once been student. At this period pathology was a field rich in truths awaiting the hand of discovery, although some work therein had been commenced, for observation had noted many facts; yet these lay without order in disjointed incoherence, ready for a master-hand to unite them in logical sequence and to give them their true interpretation. The leading students and writers in England on this subject were James Paget and John Simon; forty years ago the writings of each of these were familiar to the medical reader. Much pioneer work had to be done before the pathologist could successfully labour, and this work was the task of anatomy. The anatomy of Galen where in error was revised by Vesalius, Eustachius, Fallopius and others, whose researches were honoured by their names being bestowed on some part of the human body. Each bone, muscle, nerve and vessel having been carefully studied, anatomical research appeared complete, when Bichat announced that these structures were susceptible of division into tissues. In the midst of the terrors of the French Revolution in 1801 Bichat gave the medical world his remarkable work on anatomy, in which one finds the first systematic classification of the tissues composing the body. In its work of analysis Research passed from the tissues to their components; the hand of Bichat opened the way and pointed towards a new world—a world of the "infinitely little," as Pascal names the microscopic field which lies beneath man—in contrast to the immensely great one which lies above and beyond him. A great pioneer in the work of making necropsies and of observing and recording the changes of structure due to morbid action was John Baptist Morgagni, who wrote his observations in a famous book named "Adversaria Anatomica," a copy of which I exhibit to you; the title literally signifies the daily jottings of anatomical observation. THE LANCET many years ago adopted as a motto for its section headed "A Mirror of Hospital Practice" the admirable lines of Morgagni, in which he says, "There is no other certain way to know medicine except to have collected many histories of disease and of post-mortem examinations, of one's own work as well as that of others, and to compare these together." The microscope, as an indispensable adjuvant in histological and pathological study, came into use slowly. The older generation was content with macroscopy; one generation ago the laboratory and the microscope came into general use.

After a few years' connexion with the school at Würzburg, Virchow was called to Berlin and made Professor of Pathology in the Frederic William University. During his connexion with the Bavarian school he made himself a conspicuous figure in the medical world by the publication of an elaborate work entitled "Handbook of Special Pathology and Therapy." Besides editing this work Virchow was one of the most extensive contributors to it; it commences with a volume written by Virchow on "The General Forms of Disturbance and Disease (in the body) and their Ways of Compensation." In this work the student will find one of the most exhaustive studies of the subject of Inflammation. With the coöperation of a number of the leading medical writers of Germany, this encyclopædic work was continued for several years; amongst its writers may be mentioned Drs. Bamberger, Griesinger, Hasse, Lebert, Traube and Hebra, each an authority on his subject. In his contributions to this work one catches glimpses of the future Virchow, especially in the chapters on Thrombus, Obstruction of Vessels and Embolism. This encyclopædic work does not seem to have reached completion, although it contains seven large volumes. During its publication Virchow commenced his *Archives of Pathological Anatomy, Physiology and Clinical Medicine.* In this journal papers on these subjects of great merit have appeared in fact, the critical censorship of the eminent editor was such that the appearance of an article in the *Archives* was a guarantee of its excellence.

In 1851 Virchow became one of the associate publishers of *Canstatt's Jahresbericht*, a review of the progress of medicine in all parts of the world. This work consists of two large volumes, published annually, and containing a compend of what was published in each and every different language, during the preceding year, in every section of medicine. When in 1856 he was called to Berlin and given the appointment of Professor of Pathological Anatomy in the Frederic William University, he was thirty-six years of age, therefore in the prime of mental and physical vigour, and his connexion with one of the first German universities offered him an opportunity for the exercise of his best powers as teacher, lecturer, and writer. To give him an ample sphere for the teaching of his speciality there was erected, under his supervision it is said, a large building near the Charité Hospital, specially arranged for pathological work. In the winter of 1857 to 1858 this building was rendered famous by the delivery of twenty lectures, in which Virchow elaborated and presented his doctrines of Cellular Pathology. These lectures, of which there is a good English translation, introduced a new era in medicine; in a style singularly attractive they gave to pathology a definite and enduring form, depicting the changes which disease impresses on the tissues, the constituent cell being the prime factor in all the morbid processes. The connective tissue, hitherto viewed as an unimportant or inert contingent of animal structure, was by Virchow first shown to have most invaluable functions as an agent of repair, furnishing elements for the restoration to integrity of diseased or injured parts; whilst, as a neoplastic factor, the cell, whether of connective tissue or of epithelial origin, was shown to be the leading agent in the development of sarcoma, carcinoma, and other growths. Although subsequent research has rendered necessary a revision of some points of these doctrines, yet, in the main, they remain in integrity despite the efforts of some who would fain subvert them. The publication in 1858 of "Cellular Pathology" was followed in 1863 by one of equal eminence—viz., the "Pathology of Tumours"; the latter may be considered as the supplementary completion of the former. The pathology of tumours was also delivered within a period of five months as a series of lectures to an audience of students and physicians, and only one with untiring diligence and supreme capabilities for work would, as Virchow was then situated, have undertaken such a task. He acknowledges that without the aid of the stenographer, who copied the lectures, the work would have been impossible. The labours of Virchow have not been confined to scientific work; he is a friend to popular instruction and has liberally contributed his quota in that direction. A few years ago, in conjunction with Fr. von Holzendorff, he commenced the publication of a series of addresses in popular form on subjects within the domain of literature, history, medicine and natural science. To-day the work has nearly reached the number of 700 addresses; those which have relation to medicine or to natural science have been supervised

by Virchow. Although these addresses are popular in character they have yet been prepared by their respective writers with such care that the educated reader will be repaid for the perusal of any of them.

To what has already been mentioned Virchow has added other literary work, consisting of memorial addresses, papers on public hygiene and on topics kindred to medicine; here, especially in the addresses on Schönlein, Müller and on Goethe as a naturalist, he has given evidence that his pen is at home in a field far removed from the pathological. Virchow took an active part in the deliberations of the famous association founded by Oken and named the "Society of German Naturalists and Physicians." Before this Society he delivered, in 1865, an address entitled "The Importance of the Natural Sciences and their Development in Germany." In 1890 when the International Medical Congress met at Berlin, by unanimous consent of the medical profession of Germany, Virchow was selected without a challenging rival as the one most worthy of the coveted position of presiding over that body, and the chaplet then placed on his brow was stirred by no breath of envy, since it had the sanction of the medical men of all nations.

By mental constitution Virchow is a controversialist; by precept and by practice he has taught that unless a man when unjustly attacked defends himself, he is lacking in duty; besides the defensive he has also taken a boldly aggressive part in scientific and in political assemblies. One of the noblest efforts of Virchow's intellectual life is an address delivered ten weeks ago before the Royal Society of England. The subject was the "Position of Pathology amongst the Biological Sciences." Though delivered from the rostrum where Faraday, Huxley, Tyndall, Buckle and other representatives of the best intellect of England had stood, no abler address had ever been delivered there. It was an offering at a noble shrine of the best fruits of one of the ablest and most thoroughly trained minds within the domain of medicine. In English as polished as his native Teutonic and with a modesty which is ever the close companion of greatness, in simple and almost impersonal terms he recounted his services to the science of medicine. Virchow has made the whole medical profession heirs of his doctrine, but his lines of work and methods of research have been pursued with especial zeal by some of his pupils. Amongst these may be mentioned Recklinghausen, Wegner, Orth and Grawitz.

I first saw Virchow at his practical course in the post-mortem room; he entered in haste, almost breathless and at once proceeded to his subject. The cadaver, frozen and in a room ice cold, was examined according to the plan laid down in his manual entitled "Sections-Technik." In the use of his special knife, which he called the "pathologist's sword," he displayed wonderful expertness and faultless accuracy. Holding the brain in one hand he cleaves it in parallel planes, so that it is divided into many thin lamellæ, which, like a book, can be opened and closed at any point, and the whole can afterwards be replaced in the cranium with but little signs of mutilation. Thus proceeding, disease at any point can be discovered. On one occasion the head of a horse that had died of glanders was the specimen chiefly considered; this head, sawn through longitudinally so as to present the nasal cavities studded with ulcers, lay for an hour before him whilst he discussed the pathology of glanders. When the fatal character of the disease is considered it is evident there was no small risk in thus standing over and breathing the effluvium from such a source of fatal contagion. How accurate was his knowledge of the parts he was to consider in his demonstration was shown on one occasion when, for the purpose of microscopic work, I had removed the merest fragment from a cerebellum. He instantly detected it, stopped in his lecture, and administered a reproof to the unknown marauder. Carelessness or inattention on the part of the student was at once observed and often chided. One whose eyes wandered through the window to something outside was notified that if he saw anything more interesting than the lecture he had better retire.

Time is all too short for Virchow; for the completion of the work he always has on hand the day should number more than twenty-four hours. Not infrequently he spoke three times in one day; once I heard him lecture in the forenoon and deliver a long political speech in the evening, and in the afternoon of the same day he was engaged in sharp debate in the Reichstag; and all this while carrying on the writings before mentioned. Political life evidently has a fascination for him, for whilst these lines are being penned the telegram comes that he is a candidate for re-election to the House of Representatives. As a speaker Virchow is exceedingly calm and deliberate, and whether before a class of students or a political club he is never carried away by the "torrent, tempest and whirlpool of passion," but his uttered sentences, scarcely distinguishable from his written ones, are clear, forcible, logical and convincing. In person Virchow is of average stature, his expression is that of extraordinary courage; his attention once drawn to you you feel as if he were fixing you in focus on the object-glass of his mental microscope. A few years ago the French Government, on the occasion of the death of Claude Bernard, deputed Gambetta to pronounce an *éloge* on the great scientist. This oration, replete with supreme eloquence, closed with the remarkable words: "We now offer our salutations to Claude Bernard on his entrance into immortality." The hand of Death had then closed the door against Envy; but a few months ago the world was witness of still greater salutations which greeted the ear of one still living; men of all tongues and all climes where medicine is a cultivated science sent gifts, offerings and congratulations to Virchow on the anniversary of his seventieth birthday. Amongst the offerings was a medallion of gold, the coinage of the gifts of many friendly hands. But as form chiselled from marble and feature limned by the pencil are perishable, these gifts of Art were surpassed by another offering; this was a sheaf harvested from the best fields of German Medicine, composed of fascicles written by hands trained by the great teacher. This offering, "the enduring produce of immortal mind," was the most noble and imperishable of all, since it was wrought by the merciful hand of Medicine; and, besides homage to the master, it contained a solace to pain and disease, the perpetual heritage of our race.

METROPOLITAN HOSPITAL SUNDAY FUND.

WE continue the list of sums received at the Mansion House, which on Wednesday last reached the sum of about £35,000.

	£	s.	d.
Sir Savile Crossley, Bart., a further donation of	1000	0	0
Barnes Parish Church	33	4	9
St. Stephen's, Westminster	47	14	4
Trinity Presbyterian Church, Clapham-road	23	17	0
Holy Innocents, Hornsey	33	9	3
New College Chapel, Avenue-road	26	2	0
Holy Trinity, Upper Tooting	36	5	2
St. Saviour's, Highbury	32	8	3
German Lutheran Church, Denmark Hill	61	8	0
North Finchley Congregational Church	23	7	8
The Corporation of the City of London (a further)	105	0	0
St. Dominic's Priory, Haverstock-hill	22	2	9
Carmelite Church, Kensington	36	4	8
St. Andrew's-by-the-Wardrobe	26	11	8
St. Giles's, Cripplegate	37	8	0
St. Andrew's Presbyterian Church, Upper Norwood	43	12	0
St. George's, Westcombe-park, S.E.	30	6	2
Christ Church, Beckenham	33	17	1
St. Luke's, Westbourne-park	70	2	7
St. Thomas's, Regent-street (half collections)	53	16	3
Box outside Mansion House, including cheque from W. M. Allport, Esq.	15	10	5
St. George's Parish Church, Bloomsbury	56	0	7
Little Parndon Parish Church, Essex	20	12	0
Chiswick Parish Church, W.	27	12	0
Oratory, Brompton, S.W.	29	6	3
St. Thomas's, Camden Town, N.W.	22	5	6
Holy Trinity, Upper Tooting, S.W.	36	5	2
Farm-street Roman Catholic Church, W.	34	10	8
St. Mark, Notting-hill, W.	34	3	0
All Saints', Paddington, W.	23	1	8
St. James's, Marylebone, W.	72	10	0
St. John the Evangelist, Hornsey, N.	20	15	11
St. James's Hall and Cleveland Hall Mission	64	3	9
St. Mary the Virgin, Primrose-hill	47	5	3
Parish Church and St. Paul, Barking, E.	35	10	3
Church of the Ascension, Balham-hill, S.W.	59	10	3
Christ Church and St. Barnabas, North Finchley	20	3	8
St. Stephen's, South Kensington, S.W.	161	18	2
St. Matthew's, Ealing, W.	24	0	0
St. Peter's, Bayswater, W.	96	5	0

THE RICHMOND HOSPITAL.—This hospital will in future be known as the Royal Hospital, the Queen having given her patronage to the institution. The fund for establishing the Princess May Ward now amounts to £3630, more than £800 having been raised by the personal exertions of the Duchess of Teck and the Princess May.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Leicester Urban Sanitary District.—By the Leicester Extension Act, 1891, the boundaries of the borough have recently been considerably extended, and at the present time the estimated population of Leicester amounts to 180,066. Whatever may be said for the extension of the boundaries, many of us will regret that more persons have been brought beneath the influence of a sanitary authority whose ideas of what a hospital for infectious diseases should be are not in exact accordance with their much boasted perfectibility in sanitary matters. However, we shall illustrate our meaning further on. There was a severe epidemic of measles in the borough during last year, and Dr. Joseph Priestley estimates that, by allowing a case-mortality of 3·1 per cent., there must have been at least 4064 cases. The notification of these cases would have cost, the report estimates, £508—that is, if each case had been paid for—but it appears that in Leicester the notification of a second case in the same household is only paid for if it occurs after thirty days from the date of the first. Dr. Priestley is in favour of adding measles to the list of notifiable diseases, but he appears to regard notification and isolation as inseparable—a view of the question we are not altogether inclined to endorse. There can, we think, be little doubt that considerable benefit would accrue from the notification of measles, even in the absence of means for its proper isolation. Dr. Priestley is also an advocate for the notification of varicella, and probably all those who have closely followed the history of the recent small-pox outbreak in England will be inclined to concur in the desirability of this step. Private arrangements were made during the epidemic in Leicester for the notification of all *doubtful* cases, and it appears that several cases of small-pox were thus brought to light. As an instance of the value of isolation Dr. Priestley points to the effect which the closure of the Fever Hospital against scarlet fever had in increasing the number of scarlet fever cases notified—i.e., from Oct. 31st the wards were closed against scarlet fever, and in the following two months 408 cases of that disease were notified. Against this number there were during the first ten months of the year (with means of isolation) only 923 cases reported, and Dr. Priestley infers from this that these 923 cases, had means of isolation been absent, would have swollen to 2040. Although this may have been so, we think it would be necessary to make a careful study of the average seasonal curve of scarlet fever in Leicester before making this deduction from the facts before us—the more so, as it appears that on small-pox breaking out in the scarlet fever wards no less than 144 cases of the latter disease, in deference to the Leicester method, were distributed over the town. It would, by the way, have been an interesting study of the infectivity of scarlet fever at different stages of convalescence could the effect of these 144 cases have been traced—an inquiry which, under the circumstances, it was obviously impossible for the medical officer of health to undertake. The fatality rate of the cases treated in hospital was 2·4 per cent., as against 3·8 per cent. for those treated at home. During the year under review there was a limited outbreak of enteric fever in Leicester, which Dr. Priestley was able to trace to the consumption of herb beer, manufactured in a room in which was lying a patient ill of enteric fever. The evidence in this case, though too long to be gone into here, certainly points in the direction indicated. In discussing vaccination Dr. Priestley states that, from private information, "it appears the numbers of vaccinations and revaccinations performed under panic of small-pox during the end of 1892 and the beginning of 1893 are very large, mounting into thousands," and apparently during January alone over 500 vaccinations and revaccinations were performed. So much for the strength of Leicester's faith. We come now to Part III. of Dr. Priestley's exhaustive—we might almost say destined to become historical—report, which refers to the doings of Leicester's Fever Hospital. In the first place, it appears that this hospital is sadly deficient in the matter of isolation wards, which should, no doubt, as Dr. Priestley points out, form an integral part of every fever hospital. If these form a necessity of every isolation hospital, how much greater is the reason that Leicester, the rulers of which have, as regards small-pox, deprived its people of one of the great substitutes for isolation, should make ample provision in this respect. The history of the hospital during 1892 is briefly this. At the end of October, when the hospital was crowded with scarlet fever patients, a child was admitted into "quarantine" from a house infected with small-pox. In due course it contracted scarlet fever and subsequently developed small-pox. There being some doubt as to the nature of the eruption, it was at first thought that the child was suffering from varicella, and it was placed in a small isolation room contiguous to the scarlet fever ward with three other children, who were suffering from coexisting scarlet fever and varicella. The quarantined child's illness turned out to be small-pox, and the other three children—all of whom were unvaccinated—sickened with the disease within fourteen days. There were at this time—the end of October—158 patients with scarlet fever in hospital, and 10 of these during the next five weeks developed small-pox. Of these 10, 2, Dr. Priestley thinks, came into hospital incubating the disease, but the remaining 8 must, in his opinion, have contracted it either through aerial convection, personal contact with the staff, defective sanitary conditions, or "in some other way not yet explained." On the occurrence of small-pox the hospital committee decided to at once send home all the scarlet fever patients who could be removed; and, as we have stated, 144 patients, either suffering or convalescing from scarlet fever, were returned to their homes. Of these 144, 3 shortly returned to the hospital with small-pox which they had contracted prior to their discharge. Of 13 children who were too ill to be sent home 5 afterwards had small-pox—i.e., twenty-two, twenty-nine, thirty-five, forty-one and forty-four days, respectively, after the "quarantine" child who developed small-pox had been removed to the small-pox wards. With regard to these cases Dr. Priestley makes a remark which we quote verbatim: "I feel satisfied in my own mind that these cases arose from the too close proximity of your scarlet fever and small-pox wards, the latter being only removed five feet from the main building." In spite of this pregnant statement and the strong pressure Dr. Priestley had put upon the town council to erect proper hospital provision we read further on in the report that the scheme for a new hospital had failed to pass the council. Dr. Priestley points out to his sanitary authority that a hospital for the treatment of small-pox should not be on the same site as one used for other infectious diseases, nor in the midst of a rapidly growing suburb. He urges his case ably and fearlessly, and we heartily sympathise with him in the difficult position in which he is placed by the obstinacy and ignorance of those who unfortunately handle the reins of power. With the bitter example of the past before them, the Leicester town council refuse to provide the necessary hospital and quarantine accommodation—refuse, in other words, to even attempt to properly carry out their farcical system. Leicester professes her absolute faith in isolation and quarantine, and yet the manner in which she carries them out constitutes her the laughing-stock of all those familiar with the details. Her people ridicule vaccination and at the same time invoke the protection of the vaccinator's lancet at the rate of 500 a month. The Public Health Act of 1875 enables the Local Government Board to compel efficient water-supply and proper sewerage arrangements, but it has at present no power to insist on adequate hospital accommodation for infectious diseases. However, doubtless this will come, and Leicester's neglect in this respect should do something to hasten on this much to be desired end.

THE SERVICES.

MOVEMENTS IN THE MEDICAL STAFF.

SURGEON-LIEUTENANTS MORPHEW AND MANGAN have resumed their duties at Aldershot. Surgeon-Captain Thomas has returned to Portsmouth from temporary duty at Netley. Surgeon-Captain Kiddle has arrived from Cyprus on leave. Surgeon-Captain Cottell has reported himself at Gibraltar on return from leave and Surgeon-Captain Thacker has re-embarked for Bombay.

INDIA AND THE INDIAN MEDICAL SERVICES.

The following appointments are announced:—36th Bengal Infantry: Surgeon-Lieutenant C. B. Prall, to the Officiating Medical Charge of the Regiment. 5th Punjab Cavalry: Surgeon-Lieutenant T. A. O. Langston, to the Officiating

Medical Charge of the Regiment. Surgeon-Lieutenant D. R. Green, Officiating Civil Surgeon of Saugor, to the Executive and Medical Charge of the Saugor Gaol. Surgeon-Major R. R. H. Whitwell, Civil Surgeon of Darbhanga, to act as Civil Surgeon of Gaya until further orders. Surgeon-Captain C. C. Cassidy, to act as Civil Surgeon of Nadia until further orders. Surgeon-Captain F. C. Clarkson, to act as Civil Surgeon of Faridpur. The services of Surgeon-Captain F. J. Dewes, I.M.S. (Madras), are placed temporarily at the disposal of the Chief Commissioner of Burmah. Brigade-Surgeon-Lieutenant-Colonel G. C. Ross, to officiate as Administrative Medical Officer and Sanitary Commissioner of the Central Provinces. The services of Surgeon-Colonel G. Thomson, M.B., Administrative Medical Officer and Sanitary Commissioner of the Central Provinces, are replaced at the disposal of the Military Department. The services of Surgeon-Captain J. M. Crawford, M.B., C.M., of the I.M.S. (Bengal), are placed temporarily at the disposal of the Government of the North-West Provinces and Oudh. Surgeon-Major M. F. Macnamara, M.S., to be Civil Surgeon of the Shwebo District in addition to his military duties. Surgeon-Captain W. Vost, M.B., C.M., I.M.S., to be a Supernumerary Civil Surgeon, 2nd class, and to be posted to the Civil Medical Charge of the Bahraich District. The Hon. Brigade-Surgeon-Lieutenant-Colonel A. S. Lethbridge, C.S.I., M.D., I.M.S. (Bengal), Resident of the 2nd Class and General-Superintendent of Operations for the Suppression of Thagi and Dakaiti, is granted privilege leave for two months and twenty-nine days, from July 19th, 1893. Surgeon-Lieutenant-Colonel C. W. MacRury, I.M.S., is promoted to Brigade-Surgeon-Lieutenant-Colonel.

Surgeon-Colonel Warren succeeds Surgeon-Major-General Webb as Principal Medical Officer in Bombay, the latter officer being retired from the 6th inst.

NAVAL MEDICAL SERVICE.

Fleet-Surgeon Edward Julian Sharood, M.D., has been placed on the Retired List, with permission to assume the rank of Deputy-Inspector-General of Hospitals and Fleets.

The following appointments are announced: Surgeon Reginald T. A. Levinge to the *Rupert*, lent temporarily. Surgeon and Agent: Daniell O'Driscoll at Crookehaven.

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion, the Hampshire Regiment: Surgeon-Captain C. F. Webb, M.D., resigns his commission.—4th (Perthshire) Volunteer Battalion, the Black Watch (Royal Highlanders): Surgeon-Lieutenant R. Stirling, M.D., to be Surgeon-Captain.

DEPUTY-SURGEON-GENERAL S. B. PARTRIDGE.

Officers of both the Indian Medical Service, to which Deputy-Surgeon-General Partridge belongs, and of the British Medical Service will be glad to learn that the Queen has been pleased to approve the appointment of this officer to be a Companion of the Order of the Indian Empire, on the occasion of his retirement from the post of the Indian Medical Board. Deputy-Surgeon-General Partridge's professional ability and attainments are of a high order and his career in India was a distinguished one and highly creditable to the service to which he belongs.

THE SANITARY IMPROVEMENT OF CANTONMENTS IN BENGAL PRESIDENCY.

We learn from the *Pioneer Mail* that the Government of India have granted 91,000 rupees for the sanitary improvement of cantonments in the Bengal Presidency. One-tenth of the sum is to be devoted to experiments with incinerators.

TYPHOID FEVER AT MUNICH.

It is reported that 650 men, or a third of the effective strength of a regiment of infantry of the Guards stationed in barracks at Munich, have been attacked with typhoid fever. Twenty-two men have already died, 177 have recovered, and 445 were under treatment at the date of the last report. It will be remembered that many years ago Professor Pettenkofer made some extremely interesting observations on the rise and fall of the ground water at Munich. His observations on the wells led to the discovery that in Munich there is a very close connexion between the state of the ground water and typhoid fever, and that outbreaks of this fever occurred when the ground water was lowest and especially when, after having risen to an unusual height, it had rapidly fallen. Assuming the existence of this connexion, it is considered by some authorities to be susceptible of different explanations in different cases. The low state of the ground water, for example, may give rise to fouling of the drinking-water. Professor Pettenkofer considers that, besides a rapid sinking of ground water after an unusual rise, the impurity of the soil from animal impregnation, the heat of the soil, and the entrance of a specific germ are necessary factors. No doubt observations have been made during the present outbreak of fever and the publication of the results will be anticipated with interest.

THE COMMISSION TO INQUIRE INTO THE WORKING OF THE CANTONMENT ACT IN INDIA.

A Commission has been appointed by the Indian Government to inquire into the allegations that have been made regarding the working of the Cantonment Act in relation to the Contagious Diseases question. There is no military officer associated with the Commission, except Surgeon-Colonel Cleghorn, Inspector-General of Hospitals in the Punjab, who has always been employed in the civil branch of his medical service. The three members of which the Commission is composed will visit military stations in the Punjab and Upper India, examine the cantonment hospitals, inspect the records and otherwise make a thorough investigation of the working of the system of dealing with a certain class of contagious diseases in India.

THE LATE SIR JOHN HUDSON, K.C.B., COMMANDER-IN-CHIEF OF BOMBAY.

The death of this officer from an accident following so closely upon that of Sir James Dormer has created a painful sensation in military circles. It is certainly a remarkable circumstance that two Commanders-in-Chief should have died within a short time of one another from the result of accident—the Commander-in-Chief of the Madras Army from wounds inflicted by a tiger and Sir John Hudson from being thrown from his horse at Poona. It appears that the animal stumbled badly and Sir John Hudson fell upon his head and fractured the cervical vertebræ, dying immediately. The deceased officer was first seen by an apothecary from a regimental hospital in the immediate vicinity of the accident and almost directly afterwards by Surgeon-Captain Sutton. Sir John Hudson had a long and very distinguished war service and was well known to many medical officers of the Indian and British Services. He had been appointed quite recently to the Bombay command.

Correspondence.

"Audi alteram partem."

"MIDWIVES' MIDWIFERY."

To the Editors of THE LANCET.

SIRS,—The following two cases of malpraxis by midwives add emphasis to the necessity for legislative interference with the existing state of midwifery amongst the poorer classes. The first one occurred at Trimingham and was reported in the *Norfolk Daily Standard* of the 19th inst. Mr. Fenner, of Cromer, who was called in when the patient (a fine young woman of only nineteen years of age) was moribund, has kindly sent me some additional particulars of the case. He was called in on the sixth day after labour, and found that no notice had been taken of her sufferings and that no palliative treatment had been attempted to relieve them, although she had not made any progress after a protracted and severe labour and had been in great pain for some days. The midwife, who was seventy-four years of age and had been in practice for twenty-four years, said (at a time when a post-mortem examination was contemplated) that she had removed the placenta whole; but Mr. Fenner, having noticed several suspicious deaths in the neighbourhood where either no inquiry had been held or no medical evidence called, had arranged with the rector (the Rev. W. Tatlock) that he should be placed on the jury. Being appointed foreman, he insisted both on medical evidence and a post-mortem examination being held. This revealed the presence of one-third of an unattached placenta in the uterus with general suppurative peritonitis. The child (illegitimate) has so far survived. Both midwife and mother were censured. The second case occurred in Bermondsey and was briefly reported in the *Echo* and in the *Morning*, and Mr. Bhedwar of Southwark Park-road, who was called in when the patient was dying, has been good enough

to furnish me with some further particulars of the case. Difficulty of breathing was noticed during the labour by the midwife, but was regarded as being of no importance, as also was the fetid discharge, which betokened the presence of retained placenta, and the midwife explained that she did not call in medical advice because "some people object because they can't pay." On post-mortem examination two pieces of placenta were found in the uterus; and there was double pneumonia also present. The child died on the third day from pneumonia. It appeared that this midwife was in the habit of giving certificates of deaths, which were accepted by the local registrar; yet her knowledge was so small that she seems not to have had the slightest conception of the grave condition of her patient on the very day she died. Both of these midwives continue to practise. These cases well illustrate the terrible state of midwifery amongst the poorer classes. I am, Sirs, faithfully yours,

ROWLAND HUMPHREYS.

Fellows-road, N.W., June 30th, 1893.

THE WATER-SUPPLY OF EGYPT.

To the Editors of THE LANCET.

SIRS,—I am sorry to see that your Egyptian correspondent approves of the project for damming up the superfluous flood-water of the Nile in the bed of the river itself. To the true sanitarian any system for storing drinking-water where it is liable to pollution cannot be wholly satisfactory, and it is beyond question that until the habits of the riparian dwellers can be completely altered they will continue to make use of the bed of the stream as a common sewer and receptacle for filth. It may be argued that the volume of retained water will be great and that the amount of fouling will be relatively small. This I freely admit, and were no other plan for storing water available I would welcome the present proposal as likely to lead to advantageous results. It must not be forgotten, however, that there is another totally distinct scheme on the *tapis*, by means of which the pure water from the Abyssinian mountains would be kept till wanted in a perfectly suitable reservoir far removed from the slightest danger of contamination. I allude, of course, to the Wady Raiyan project, so ably advocated by Mr. Cope Whitehouse. For some inscrutable reason this scheme, though pronounced perfectly feasible by competent engineers, is looked on with disfavour in high places; but it is nevertheless the one which all who have the real interest of the country at heart should support to the utmost of their power. Anyone who has seen the Nile at flood time must acknowledge the enormous power of the current it is proposed to restrain by dams. No doubt the work presents no insuperable difficulties from an engineering point of view, but dams in the course of a river are always more or less a source of danger. This, however, is not the point on which I would chiefly insist. The question is, Why should water be stored in reservoirs where it would be liable to pollution when there exists a site—perfectly suitable in every respect—where it would be entirely safe? There is absolutely no water in Egypt except what comes from the Nile; it behoves those in authority, therefore, to make sure that the supply is kept as pure and free from danger of contamination as possible.

I am, Sirs, yours truly,

Hereford-road, Southsea, July 1st, 1893. H. R. GREENE.

"MEDICAL AID ASSOCIATIONS."

To the Editors of THE LANCET.

SIRS,—There are one or two points in reference to this discussion which I should be glad if you would kindly allow me to note. Your correspondent who signs himself "Verax" states "that the medical profession appears to be suffering acutely at present from the disease of excessive competition, and it is *obvious*" (the italics are mine) "that the cause of this is that we have too many medical men for our population." Personally I should not regard the preponderance of medical men to the general public as in any sense an "obvious" cause of competition. On the contrary, it would seem to me, judging from the large amount of contract work and the system of many medical men keeping two or more establishments, that there is rather a tendency to engage in more work than can be performed, which in reality means that there are more patients than can be attended to, and this indeed is one of the indictments against the associations in question. The fact is, Sirs, the true cause which renders our profession a beggarly one consists in the circumstance that "the struggle for existence" is amongst all classes so keen nowadays that a large majority of those who in bygone times might be said to have formed the backbone of general practice can no longer conveniently remunerate medical men, and only those who are actuated by good principle will attempt to do so, the consequence of this being that the vast majority are too ready to avail themselves of the first bait which offers itself in the market, whether it be a sixpenny dispensary, club, or insurance or medical aid association, and as a logical sequence the small fees under contract and dispensary work make it necessary to have so many patients in order to realise an income. Experience has taught us, and painfully too, that fees are now at their lowest ebb—at least, it is impossible to conceive that they can ever be lower—and our aim, I think, should rather be an attempt to raise these than to barricade the profession by any methods such as "Verax" suggests; we should, by thus raising the fees, be enabled to diminish the number of our patients rather than increase them, and thereby render our work less laborious, at the same time providing work for those who, according to "Verax," are superfluous by virtue of their number. How this is to be done, however, is quite another question. I also note that your correspondent, Mr. J. B. Pike, in speaking of contract work, appears to advocate a somewhat illegal and, therefore, untenable doctrine, because he says: "Let all medical men refuse to accept as club patients those who are able to pay moderate fees." No doubt if this could—but it cannot—be carried out contract work might be of some benefit to all the contracting parties. It is quite evident, however, that a medical man has no option in the matter of refusing club patients, except on the ground of ill-health, when applying for membership, and in many cases even the examination is dispensed with. Having, therefore, once accepted contract work, he is no longer a free agent, but becomes a legal servant to the club or otherwise and consequently has no control in the internal organisation or administration of the work; his refusal to attend a patient under the pretext that he or she could afford to pay more would probably soon land him within the clutches of some petty litigation. But possibly I misapprehend Mr. Pike.

I am, Sirs, yours &c.,

Queen's-road, July 1st, 1893. CLEMENT H. SERS.

To the Editors of THE LANCET.

SIRS,—Even if "Medicus" could substantiate his statements in relation to hospital treatment, it seems strange that because in his opinion abuses exist in certain institutions he should approve of their presence in connexion with medical aid societies, for that is what his letter practically amounts to.

I am, Sirs, yours &c.,

FREDK. W. COLLINGWOOD,
Surgeon, R.N.

Devonport, June 26th, 1893.

TREATMENT OF HÆMOPTYSIS.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of January 21st, 1888, I recorded in your columns of "Clinical Notes" a case of hæmoptysis treated by hypodermic injection of ergotinin, and I there mentioned that the patient vomited freely after some very alarming symptoms had supervened, which I thought were due apparently to the administration of the drug named. I also noted that there was no recurrence of the bleeding from the lungs and that there was a complete recovery from all bad effects. I am now inclined to believe that the hæmoptysis was checked through the action of the ergotinin in producing an extreme degree of nausea quickly induced, which would also account for the alarming syncope it gave rise to in my patient. I am the more fortified in this opinion since reading Lecture XXIX. in the late Professor A. Trouseau's Lectures on Clinical Medicine, delivered at the Hôtel Dieu, Paris (New Sydenham Society's Edition, 1870). He laid considerable stress upon the use of powder of ipecacuanha in somewhat heroic doses, giving in the case of an old man aged sixty-two doses of rather more than a drachm which were repeated within a short interval so as to cause violent vomiting. He stated that frightful hæmorrhage from the lungs in this man had occurred within the space of

five months and had been immediately arrested by means of these doses.

I am not aware that this treatment is recommended generally in text-books and by lecturers on medicine in this country, but with the approval of such a wise and experienced physician as Trouseau undoubtedly was acknowledged to be by the medical profession in all civilised parts of the world I think we should not hesitate for a moment to resort to such a plan of treatment in hæmoptysis. He also stated that "for the last two centuries physicians have lauded the Brazilian root as a remedy in all forms of hæmorrhage"; and Baglivi says: "Radix ipecacuanhæ est specificum et quasi infallibile remedium in fluxibus dysentericis aliisque hæmoragiis." Again, he said, after referring to the many precautionary measures usually imposed upon the patient suffering from hæmoptysis: "Yet here we are giving a medicine which produces vomiting, during which the face swells, the blood stagnates in the veins by which it is being conveyed to the auricles and consequently the pulmonary veins become distended. One might expect that such treatment would cause the hæmoptysis to return in a much more profuse degree; but in place of this it is stopped in nearly every case." I think that after reading this impressive statement I am justified in concluding that the emesis set up in my case by the ergotinin checked the hæmorrhage.

I am, Sirs, yours truly,

JOHN COCHRANE, L.R.C.P. and L.R.C.S. Ed.,
District Medical Officer of Health &c.

Lochgoilhead, Greenock, N.B., June 30th, 1893.

THE CAUSE OF DEATH UNDER CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—Desiring to submit a few suggestions to the consideration of all who desire to learn the truth as regards the reason for the mortality under chloroform, I once more venture on addressing you on the subject. These are briefly as follows: 1. Is not death really always through the brain? My idea is that the action of chloroform is such in its initial phases as to cause hyperæsthesia of the centres dominating cardiac and respiratory action, and that death results from the undue prolongation of this stage allowing of some accident likely to fatally overturn the equilibrium thus imperilled—that known as shock, for example. When no anæsthetic is given one knows that death may occur from shock, due probably to the mental excitement and anticipation of the ordeal. Everyone knows the case of the jester sentenced to be beheaded and who died though only a sharp blow on the back of the neck was given. When this mental state is carried a little further by suggestion or sheer force of will it seems possible to produce an anæsthetic condition. Now my position is that such a state of unstable equilibrium is induced in the earlier stages of chloroform administration and it is in this stage that death occurs almost invariably. 2. All cases of death at this stage are the outcome of some direct action upon the cardiac nerve centre rendered thus hyperæsthetic or unstable. 3. Such occurrences, then, can be rendered less and less probable in direct proportion to the rapidity with which the patient is brought under the complete influence of the anæsthetic. In other words, the more rapidly anæsthesia is induced the less risk is there of any trouble. This is the old conclusion, which I desire to place once more before the profession supported by a hypothesis which research should soon negative or affirm. 4. In like manner the chloroform should be given in the place and position in which the operation is to be performed. My impression is that failure to comply with this direction has caused many deaths, and it is well to study those cases detailed in THE LANCET Commission on Anæsthetics where pulse and respiration ceased as soon as the position of the patient was changed. Surely this can be avoided. Finally, I feel that it is necessary to insist that in chloroform administration "L'audace, l'audace, toujours l'audace" is always a much safer rule than "Exercise caution," which is only another word for timidity and half-measures, whilst boldness is not recklessness. Trusting that this reiteration of aphorisms which are as old as chloroform anæsthesia will not appear platitudinous,—I am, Sirs, yours faithfully,

G. A. VAN SOMEREN, M.D.EDIN.

Orange, New South Wales, May 26th, 1893.

"SEPTIC INTOXICATION DURING THE PUERPERIUM."

To the Editors of THE LANCET.

SIRS,—In reference to Dr. McCann's very able paper on the above, I desire to point out: (1) That the exhibition of iron in full doses is a valuable adjunct to treatment, strengthening as it does Nature's first line of defence—the resistance of the tissues; (2) that corrosive sublimate is an extremely dangerous substance for uterine injection, hence the careful precautions; and (3) that it is far simpler, safer and surer to use for injection half a pint of warm solution of biniodide of mercury of the strength of 1 in 2000. Without giving references, I wished to make these observations as it is a little disappointing to see Dr. McCann taking such pains in order to use the bichloride, when the biniodide of mercury is known to be very much safer and at the same time a much more certain antiseptic.—I am, Sirs, yours truly,

Mentone, June, 1893. A. HANBURY FREEE, M.B.

ROYAL BRITISH NURSES' ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—The statements which have been made respecting the effect of the Charter granted to the Royal British Nurses' Association render it necessary that the members of the various hospitals and nurse-training schools should clearly understand their position under the Charter. We, therefore, as representing the chief hospitals and nurse-training schools of the metropolis which have taken part in opposing the Charter, think it right to call public attention to the important limitations which have been placed upon the powers originally sought for. No opposition has at any time been raised to the incorporation of the Association for the purpose of promoting such benevolent schemes for the benefit of nurses as are now set forth in the Charter as the first of the objects of the Association. The opposition was directed mainly against the attempt to create a "list or register," which would be regarded by the public as a legally authorised "register of trained nurses." The Charter, as granted, substitutes for the "list or register of nurses" a "list of persons who may have applied to the corporation to have their names entered therein as nurses and whom the corporation may think fit to enter therein from time to time, coupled with such information about each person so entered as to the corporation may from time to time seem desirable."

It is important, in order to prevent misunderstanding and to avoid misconstruction, that the following points should be clearly borne in mind: 1. No professional privilege will be obtained by the nurses whose names appear upon the list. 2. The list will have nothing in common with legal registers of the medical or other professions, but will simply be a list of nurses published by the Association. 3. No nurse whose name appears on the list will have any right to use the title of "registered nurse." It is desirable to add that a comparison of the Draft Charter as submitted to the Privy Council with the Charter as granted clearly shows that the Privy Council have recognised the evils which might directly or indirectly have been occasioned by the establishment of a chartered register, as originally proposed.

We are, Sirs, your obedient servants,

(Signed)

FLORENCE NIGHTINGALE.
WESTMINSTER, K.G., Chairman Metropolitan and National Nursing Association.
J. G. WAINWRIGHT, Treasurer of St. Thomas's Hospital.
HENRY BONHAM CARTER, Secretary of the Nightingale Fund.
J. S. BRISTOWE, M.D., F.R.S., Consulting Physician to St. Thomas's Hospital.
SEYMOUR J. SHARKEY, M.D., F.R.C.P., Physician to St. Thomas's Hospital and Lecturer to Nurses.
L. M. GORDON, Matron of St. Thomas's Hospital and Superintendent of the Nightingale Fund.
E. H. LUSHINGTON, Treasurer of Guy's Hospital Training School.
THOMAS BRYANT, F.R.C.S., Hon. Surgeon, Guy's Hospital.
E. C. PERRY, Medical Superintendent, Guy's Hospital.
FLORENCE C. NOTT BOWER, Matron, Guy's Hospital.
RUTHERFORD ALCOCK, K.C.B., Vice-Chairman, Westminster Nursing Home.

J. TROUTBECK, D.D., Hon. Treasurer, Westminster Nursing Home.

MARY E. THYNNE, Hon. Secretary, Westminster Nursing Home.

W. H. ALLCHIN, M.D., F.R.C.P., Physician to Westminster Hospital.

THOMAS BOND, F.R.C.S., Surgeon to Westminster Hospital.

MARY J. PYNE, Matron to Westminster Hospital.

JOHN H. HALE, Chairman of the London Hospital.

FREDERICK TREVES, F.R.C.S., Surgeon to London Hospital.

A. ERNEST SANSOM, M.D., F.R.C.P., Physician to London Hospital.

E. C. E. LÜCKES, Matron to London Hospital.

HY. WACE, D.D., Chairman of Committee of Management, King's College Hospital.

JOHN CURNOW, M.D., F.R.C.P., Lecturer to the Nursing Staff and Dean of the Faculty of Medicine, King's College Hospital.

C. AUSTIN LEIGH, Vice-Chairman of King's College Hospital.

KATHERINE H. MONK, Matron to King's College Hospital.

JOHN B. MARTIN, Treasurer, Charing-Cross Hospital.

FREDERICK WILLCOCKS, M.D., Physician to Charing-Cross Hospital and Lecturer to Nursing Staff.

H. A. C. GORDON, Matron to Charing-Cross Hospital.

W. A. MACKINNON, K.C.B., Director-General, Army Medical Department.

JOHN R. LUNN, F.R.C.S.E., Medical Superintendent and Lecturer to Nurses, St. Marylebone Infirmary.

ELIZABETH VINCENT, Matron to St. Marylebone Infirmary.

WM. RATHBONE, M.P.

A. MARSDEN, M.D., Royal Free Hospital.

To the Editors of THE LANCET.

SIRS,—We are instructed by the executive committee of the Royal British Nurses' Association to reply to the attack made upon the Association in a letter which appeared in *The Times* on Monday last, and to request as a favour that you will insert this reply. We propose to deal in the first instance with the substance of the attack and afterwards with the persons whose signatures were appended to it. The writers of the letter to which we refer assert that they "think it right to call public attention to the important limitations which have been placed upon the powers originally sought for" by the Association. They do not specify what these limitations are, and our reply is that there are none. The statement that "limitations" have been placed upon the powers sought for by the Association is untrue absolutely and entirely and, as it can be disproved in five minutes by an examination of printed documents, it is untrue without any shadow of justification or excuse. The writers go on to say that "no opposition has at any time been raised to the incorporation of the Association for the purpose of promoting such benevolent schemes for the benefit of nurses as are now set forth in the Charter as the first of the objects of the Association. The opposition was directed mainly against the attempt to create a list or register which would be regarded by the public as a legally authorised 'Register of trained nurses.'" As a matter of fact the opposition was to the grant of a Charter absolutely and the petition of the opponents set forth that "your petitioners submit that the purposes stated in the Draft Charter other than the maintenance of the Register aforesaid, although desirable and beneficial, can be effectually accomplished by an unincorporated association." This assertion was, of course, nonsense, on account of the difficulties which an unincorporated association would experience in obtaining or in dealing with the necessary funds, but the writers of the letter must not now be suffered to escape from their published statements. The letter continues that "the Charter, as granted, substitutes for the List or Register of Nurses" a clause which is correctly quoted, but upon which it is implied and almost stated that the power granted differs from the power which was sought. We will therefore place the two in parallel columns:

Power sought.	*Power granted.*
The maintenance of a List or Register of Nurses, showing as to each nurse registered her name and address and the name of the hospitals or other places at which she has been trained and the length of training which she has received.	The maintenance and publication of a list of persons who may have applied to the Corporation to have their names entered therein as nurses, and whom the Corporation may think fit to enter therein from time to time, coupled with such information about each person so entered, as to the Corporation may from time to time seem desirable.

It will be observed that there is here no limitation at all, but simply a grant in wider and more general terms than that which was asked for; and it is worthy of note that the Privy Council went out of its way to express special approval of the proposed list by introducing the following clause into the preliminary recitals of the Charter:—"And whereas it appears to us that a permanent Association formed for the purpose of maintaining a closer connexion among persons practising as nurses, and thereby ensuring mutual counsel, comfort and support, *and for the purpose of disseminating to the public at large information respecting such persons*, is likely to prove of much public benefit" &c. The writers of the letter go on to say that the following points should be clearly borne in mind:

"1. No professional privilege will be obtained by the nurses whose names appear upon the list." The reply is that a nurse whose name appears upon the list will gain the highly important privilege of being able at any time to establish, by reference to a book published under the authority of a chartered corporation, her indefeasible claim to the title which she assumes, and that she will not be liable to be confounded with the half-trained probationers who, to the great detriment of the sick, are now sent out by various public and private institutions. This privilege is one which will increase in value and importance year by year as its true meaning comes to be more and more fully understood by the medical profession and by the public.

"2. The list will have nothing in common with legal registers of the medical or other professions, but will simply be a list of nurses published by the Association." This, in a sense, is not only true but obvious. The Privy Council has no power to authorise the publication of a compulsory or "legal" register, which could only be established by an Act of Parliament. There can be little doubt, however, that experience of the value of the Association register will in due time lead to such an Act being obtained. In the meanwhile the list will be a book containing information of great importance, not easily accessible elsewhere, and rendered trustworthy by the character and position of the corporation from which it proceeds.

"3. No nurse whose name appears on the list will have any right to use the title of registered nurse." This is absurd. Every nurse whose name appears on the list will have a right to describe herself as "Registered by the Royal British Nurses' Association," and would be likely to prefer this explicit statement to anything more vague.

The letter concludes by an assertion that a comparison of the Draft Charter with that which was granted "clearly shows that the Privy Council have recognised the evils which might directly or indirectly have been occasioned by the establishment of a chartered register as originally proposed." The only differences between the Draft Charter and the Charter as granted are to be found in the explicit approval of the principle of the register which we have already quoted, in a change in the order of succession of some of the clauses, and in the fact that the original wording has in two places been so altered as to possess a more general character, but in both so as to extend and enlarge, and not to curtail, the privileges which the Association sought to obtain. From the substance of the letter we pass on to the signatories. They are thirty-three in number, and twenty-six of the thirty-three are officials of the following hospitals—namely, the London, St. Thomas's, Guy's, Westminster, King's College and Charing-cross—all, or nearly all, of these being institutions which make, or endeavour to make, profits by sending out nurses to private houses. The first principle of the Royal British Nurses' Association is that no nurse should be considered fit for the responsibilities of private nursing, as these are now understood, until she has received three years' training in a hospital or hospitals of approved efficiency; and this view has been accepted and endorsed by the Lords Committee on Hospitals. Now

the London Hospital habitually sends out probationers of only one year's training, pays them as probationers, charges for them as skilled nurses, and has derived from the difference between the wages of the nurses and their earnings a net profit of as much as £1700 in a single year. Charing-cross Hospital is, we believe, only beginning to send out nurses, and we do not know the character of its arrangements; although, from the company in which we now find its officials we fear that these arrangements leave much to be desired. Westminster Hospital has for a long time sent out so-called nurses after only one year's training. Guy's Hospital sends them out after only eighteen months. King's College Hospital conceals the accounts of its private nursing department even from its subscribers, and its course of action can therefore only be conjectured. Finally, St. Thomas's Hospital "registers" its probationers privately as trained nurses at the end of one year, although its authorities object, professedly on principle, to the issue of a public register. Twenty-six of our thirty-three critics are therefore persons who are engaged more or less in maintaining a vicious system which it is one of the objects of the Association to reform; and we can only thank them for having, in their feeble way directed the attention of the public to the gulf which separates their aims from ours. Finally, we are bound to recognise that amongst the twenty-six signatories, as well as amongst the remaining seven, there are persons who would not knowingly attach their names to statements which are untrue in fact and injurious in intention. Such persons must of course have been misled by defective information, and we may fairly call upon them to read both the proposed and the actual Charter for themselves and then to take such action as may seem good to them.

We are, Sirs, your obedient servants,
W. BEZLY THORNE, M.D., } Honorary
GRACE GORDON, } Secretaries.
July 5th, 1893. DAISY ROBINS, Secretary.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Victoria University: Degree Day.

ON Saturday last the annual ceremony for the granting of degrees in connexion with the Victoria University was held at the Free Trade Hall in this city. There was a large and fashionable audience, which filled the great hall to within one-fourth of its total capacity; and the proceedings showed that the work of the Victoria University is being watched with great and increasing interest by at any rate the more cultured section of the Manchester public. The Vice-Chancellor, in his inaugural statement, said that, although the recently-ended session had not been marked by events of great moment, nevertheless it had shown a record of steady and unabated growth. Convocation, having now considerably outgrown its first limit of 250, had been able to elect three additional representatives to serve upon the University Court. The candidates proceeding to degrees this year were eighty-seven, amongst whom appeared for the first time two graduate professors of another university who had applied for incorporation into the Victoria University. The candidates entering for the June examinations this year exceeded five hundred in number, although this total did not include the entries for medical examinations in March and July. The registered day students of the three constituent colleges now exceeded 2000, and whilst an increasing proportion of these now entered for university degrees the remainder, both educationally and socially, came more constantly within the range of university influence. Amongst the eighty-seven persons upon whom degrees were conferred on Saturday last not fewer than six were women who took the M.A., four the B.A. and one the new degree of M.Sc.

Royal Humane Society.

On June 19th the mayor of Salford had the pleasing duty of presenting, on behalf of the Royal Humane Society, their certificate for bravery in saving life to Mr John W. Mullen, medical superintendent of the Ladywell Sanatorium. In Easter Week last whilst on a steam launch on the Bridgwater Canal Mr. Mullen—at the imminent risk of his own life—jumped into the water and saved a youth who was on the point of being drowned. The mayor, in making the presentation, alluded to circumstances in connexion with Mr. Mullen's plucky conduct which showed that the honour had seldom been more richly deserved than in this particular case.

Chat Moss Estate.

I mentioned in a previous letter that the city council had agreed with Sir Humphry de Trafford to purchase the Chat Moss Estate for the disposal of that portion of the city refuse which could not be received at the corporation's other sewage farm at Carrington, the purchase being of course conditional on the consent of the Local Government Board. Since the date of that letter Mr. Smith, engineering inspector of the Board, has held a local inquiry, having inspected the Chat Moss site, and subsequently attended for three days at the Manchester Town Hall to hear evidence for and against the project of the corporation. A letter has just recently been received from the Local Government Board formally sanctioning the purchase on certain conditions. Mr. C. N. Dalton, in communicating the Board's decision, says: "The Board are of opinion that the scheme is one of which they can properly approve on the understanding that the town council are prepared to carry out the necessary works for furnishing a sufficient supply of water to the farms and dwelling-houses on the estate." Whilst, however, the board thus formally sanction the borrowing of a large sum of money for the *purchase of the estate*, they have decided to defer their sanction to a loan for the *works* to be erected on the estate until detailed plans and estimates of the cost have been submitted to them.

The Diarrhœa Season.

As a result of the protracted drought and the exceptional heat of the last two months, the diarrhœa season has set in this year fully a month earlier than in previous years. The critical earth temperature (56° F) has now been exceeded by more than one degree for about ten days. Consequently the deaths from diarrhœa have increased from 11 and 18 in the two previous weeks to as many as 58 in the week ended July 1st. According to the last weekly return it appears that almost the whole of these deaths were amongst children who had not completed their first year of life; and we are told that in addition to the 58 deaths definitely referred to diarrhœa there were 9 others in which diarrhœa was a contributory or secondary cause of death. The medical officer of health has issued precautionary handbills against diarrhœa and cholera which are freely circulated by the female health visitors and sanitary inspectors amongst the denizens of our slums, and the corporation have made provision for the gratuitous distribution of a simple form of astringent mixture to those of the public who are unable to pay for medical attendance. In the event of the present dry and hot weather continuing it is to be feared that the mortality from summer diarrhœa will become very serious as the autumn wears on.

Small-pox Prevalence.

It is pleasant at last to be able to record a decided falling off in the number of reported small-pox cases, only one case having been sent to the Monsall Hospital last week from any part of the city of Manchester. A few cases were isolated in hospital from outside districts, but the number of patients under treatment, both at Monsall and at Clayton, are steadily declining. It is too soon as yet to congratulate ourselves on the approaching termination of the epidemic; for, although the returns show only a few new cases within the last fortnight, nevertheless it must be remembered that the distribution of the disease was very wide even so recently as six weeks ago; and in view of the fact that small-pox is by no means extinct in several neighbouring towns which are in daily communication with Manchester it behoves our sanitary authority to relax none of their watchfulness, lest a renewed outburst of this pestilence should be the result.

July 4th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

The Scottish Universities Commission.

THIS Commission has issued in its final form Ordinance No. 27, dealing with the "Regulations as to Application of Parliamentary Grants as to Salaries and for the Institution of a Fee Fund and for other purposes." In the main the line of the draft ordinance is adhered to, and the regulations refer only to the University of Edinburgh. The fee fund is maintained. The present professors of clinical medicine are to continue to draw and appropriate the fees of the clinical

medicine class in addition to the salaries received from their other chairs, but when the present holders of the chair have been replaced the fees from clinical medicine are to be treated like those from the other classes by being paid into the general fee fund. No arrangement was made about the clinical medicine professors in the draft ordinance. The salaries of the professors have also been raised, but there is no greater elasticity in the direction of part payment by results than there was in the draft ordinance.

The Cullen Prize.

The Victoria Jubilee Cullen Prize has been awarded to Dr. William Russell by the Royal College of Physicians of Edinburgh for his work on Cancer. The prize was founded by Dr. Gunning, is awarded triennially and is of the value of £100.

June 27th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Health of Dublin during May.

As compared with the previous month there was a large increase in the mortality from measles and whooping-cough. The deaths from typhoid fever show a decrease of nearly one-half. The general death-rate was 1·12 per 1000 below the average for the corresponding month in the previous ten years. During the first five months of the present year the zymotic death-rate was only 1·96 per 1000.

Lunacy Accommodation.

A deputation representing the authorities of Irish lunatic asylums had an interview last week with Sir David Harrel, Under-Secretary for Ireland, with reference to the subject of providing additional lunacy accommodation. The proceedings were private, but it is stated that the rate of interest charged on loans for works was one of the principal matters under discussion, the deputation regarding the interest charged as being too high and the time allowed for repayment too short, and they urged that the terms granted for the erection of artisans' dwellings should apply equally in the case of asylums. Sir David Harrel promised to consider the matter carefully.

Interesting Case: Double Monster.

Dr. Smyly, in his report of the Rotunda Lying-in Hospital, which was recently brought before the members of the Royal Academy of Medicine of Ireland, refers to a case of double monster. The following are brief details of the case. The mother, aged twenty-seven, third pregnancy, on admission was very large and twins were palpated, but no second head could be felt. The fœtal heart was strong, but a second could not be heard, so that the diagnosis was uncertain. Two right feet prolapsed and one was returned, and the left foot corresponding to the one down was brought out. The third foot again prolapsed and was returned, but as it once more prolapsed, all four were seized and traction made. After the breeches were delivered delay occurred and an examination was made, and the bodies were found to be united together above. Delivery was easily effected by Dr. Smyly and the fœtus proved to be a double monster joined from the heads to the umbilicus. The heads were fused together at each side of the occiput, and there was a face in front and another at the back. There was a hare-lip on one face. The two arms, two legs and the fingers and toes were normal. It was quite dead when born, and has been placed in the Museum of the Royal College of Surgeons in Ireland.

Queen's College Students' Union.

I understand that it has been definitely decided to hold a fancy fair in Queen's College, Belfast, in May, 1894, to raise funds for the above object. A meeting of ladies was held in the College on June 30th, and it was reported that the Marchioness of Dufferin and Ava, the Marchioness of Londonderry, the Countess of Ranferly, the Viscountess Templeton and others had promised to be stall-holders. It is proposed to utilise all the available halls and apartments at the College besides erecting marquees in the grounds for this fair, and from the enthusiasm already displayed the event promises to mark a feature in the history of the College.

Open Spaces in the City of Belfast.

For some time an agitation has been going on in Belfast in favour of providing open spaces in those parts of the city which are principally occupied by the working classes, and a very influential deputation waited upon the Public Health Committee of the corporation with regard to this subject. At a meeting of the city council this committee recommended that the council should refer the matter to the Improvement and Public Health Committee, with the view of provision being made for the acquisition of open spaces as opportunities may arise and according to what funds may be available for the purpose.

The Weather in the North of Ireland.

Although we have had a phenomenally hot and dry season, the north of Ireland has not suffered to the same extent as England, owing to the fact that at intervals we have had rain, and consequently the crops on the whole are good. There is less sickness than usual, and it was reported by the officer of health on July 1st at the city council meeting that the mortality of Belfast was 23·5 per 1000, whilst in the corresponding period of 1892 it was 27·1. In Londonderry the death-rate is now extremely low, being 14·1 per 1000.

An epidemic of typhus fever has broken out at Causeway, North Kerry.

July 4th

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Cholera.

As a result of his Hamburg experience, Professor Koch has called attention to the large number of cases of cholera which are so light as to escape attention; thus of a group of men exposed to infection at the same time one took cholera severely and died at once, two were very ill, three were slightly ill, whilst the others were apparently quite well though the comma bacillus was found in their stools and they were, of course, capable of infecting other people through drinking-water &c. Professor Koch's position in relation to the measures to be taken against the spread of cholera appears to be as follows: he is against general interference with wholesale trade because he does not think there is any danger of cholera becoming epidemic from this source; he considers that, so far as passenger traffic on railways is concerned, it is useless to adopt any restrictions, and even the regular medical inspection of all trains gives very slight results in comparison to the cost and trouble it causes. On the other hand, he lays very great importance upon the river and canal traffic, and would arrange, if possible, to have every boat or barge medically inspected once in twenty-four hours. He puts the greatest possible stress upon the detection and diagnosis of the first cases and in this connexion remarks that the idea that young children do not take cholera is not borne out by experience; that, on the contrary, they are decidedly susceptible, though perhaps the form is usually not severe, and hence in times when cholera is about it is important to remember that the first cases may be slight and occur in children. Isolation of the sick and of those who have been in danger of infection from them is necessary. The attack usually commences on the third day after infection, rarely on the fifth day, hence observation for five days is sufficient. The chief point of all is the earliest possible notification of the first case—this implies the earliest possible diagnosis—so that means may be taken to quench the smouldering fire before it has time to burst into flame. The isolation of the sick must continue till they are quite free from infectious material, and this may not be for several days after apparent convalescence. The soiled linen and bedding of cholera patients are especially dangerous, hence the importance of having these properly disinfected and of keeping an eye upon the washerwomen where a case of cholera has occurred. The water used for drinking and domestic purposes has in the past been the most usual cause of large epidemics, and milk has often been infected by water; places provided with a supply of pure water may be regarded as practically immune against an epidemic of cholera.

Clinical Teaching at Berlin.

The attempt to induce the Corporation of Berlin to open their hospitals for clinical teaching has not been successful. This is the more to be regretted as the Charité is overloaded and hardly up to the high standard of accommodation for teaching purposes which is recognised as necessary here. The university has splendid buildings devoted to surgery and the diseases of women, and doubtless ways and means will be found before long to give medicine equal advantages.

The Out-patient Department Grievance.

The difficulty or impossibility of preventing the people who are able to pay a medical man from taking advantage of the hospital out-patient practice to obtain advice free has become a question of considerable importance in Berlin. Probably the misuse of the out-patient departments has not yet reached the height to which it has attained in London and some provincial cities, but it seems to be growing, and an attempt is to be made, in the interest of the public and the profession, to check it.

University Students.

In the session 1892–93 there were 8172 students of medicine attending German universities; in 1871 there were 2000 to 3000; in 1886 the number was 6869. The cost of a medical education is very considerable and, including living and teaching fees, probably reaches not less than £500 for the four years and a half (nine semesters), which is the period necessary for a medical degree. Nevertheless about 1300 degrees are now obtained yearly in German universities, and the greater number of these young men spring from the industrial and mercantile classes.

Housing of the Working Classes.

The difficulty of providing good house accommodation for the working classes in Berlin is occupying considerable attention. The rapid growth of Berlin and the very great rise in the value of building land everywhere in the suburbs of the city have made it impossible for any but the best situated of the working classes to provide houses for themselves. The question is well discussed and suggestions for small dwellings in flats for working men, with plans, are given in a *brochure* by A. Messel, published by Simion at Berlin this year.

Berlin, July 4th.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF MEMBERS OF COUNCIL.

THE fifth election of Fellows to fill the vacancies on the Council of the College under the new regulations was held in the library of the Royal College of Surgeons, Lincoln's-inn-fields, on Thursday, the 6th inst., between 2 P.M. and 4 P.M. The result of the voting was as follows:—

1.	Mr. ARTHUR W. MAYO ROBSON	241	(including 4 plumpers).		
2.	Mr. NOTTIDGE CHARLES MACNAMARA	239	,,	3	,,
3.	Mr. OLIVER PEMBERTON	229	,,	12	,,
4.	Mr. HENRY MORRIS	171	,,	13	,,
5.	Mr. Arthur Trehern Norton	169	,,	5	,,
6.	Mr. John Neville C. Davies-Colley	145	,,	6	,,
7.	Mr. William Anderson	118	,,	15	,,
8.	Mr. Herbert W. Page	110	,,	2	,,
9.	Mr. Jeremiah McCarthy	105	,,	14	,,
10.	Mr. Wm. Henry Bennett	74	,,	5	,,
11.	Mr. John Astley Bloxam	66	,,	7	,,

Mr. Macnamara and Mr. Pemberton were declared to be re-elected, and Mr. Mayo Robson and Mr. Morris were declared elected Members of the Council. A good deal of interest was taken in the election, 134 Fellows attending and voting in person; 450 proxy papers were applied for; of these 390 were returned, but eight of them arrived too late for the election. Some of these votes may have been recorded personally, as the senders were duly notified. Two voting-papers were declared to be invalid, another had only three clear marks, a fourth being indistinguishable. Last year 149 Fellows attended and voted in person, whilst 367 valid proxy papers were sent in. Mr. George Carrick Steet and Mr. Jabez Thomas acted as scrutineers, and on the motion of the President a vote of thanks was given them for their services.

THE NEW CONVALESCENT HOME AT WITHERNSEA.—The new Hull and East Riding Convalescent Home was opened on Saturday last, July 1st, by Lord Herries. The building before conversion into a home was the gift of Messrs. Francis and James Reckitt, the fund for the alteration being subscribed by the public.

Medical News.

THE VICTORIA UNIVERSITY.—The following gentlemen have qualfied for the degree of M.D.:—

Edward Mansfield Brockbank, Owens College.
Albert John Chalmers, University College.
William James Howarth, Owens College.
Theophilus Nicholas Kelynack, Owens College.
John Henry Lightbody, University College.

The Gold Dissertation Medals have been won by Messrs. A. J. Chalmers, M.D., and T. N. Kelynack, M.D.

UNIVERSITY OF DUBLIN.—The following degrees were conferred last week:

Bachelor in Medicine.—Richard Deane Sweeting.

Bachelor in Medicine, Surgery and Obstetrics.—George Denbigh Collen, James Clive Collins, Bertram Isaac d'Olier, Francis Charles Ellison, George Wallace Eustace, Charles Griffin, Arthur Blayney Hamilton, James Henderson, George William Kendall, William Albert Edward Leary, Hamilton Richard Packenham, Henry Mortimer Pearson, William Ferguson Pim, Joseph Power, Benjamin Hosford Steede, Edwin Bedford Steel, Charles Gerald Tench.

Doctor in Medicine.—Honoris Causa: James Little.

Doctor in Medicine.—Francis William Dobbin, Edward John Doyle, Francis Charles Ellison, George Faris, John George Gibbon, Hampton Atkinson Gray, Harry Rathbone Griffith, Frank Hyde Maberley, Armar John McFarland, Michael Andrew Rynne, J. A. Scott, Edward Albert Seale, Edward William Wood White.

MEDICAL DEFENCE UNION, LIMITED.—A council meeting was held at 429, Strand, on June 28th, Mr. Victor Horsley in the chair. Twenty-two new members were accepted. Dr. Bateman reported that he had demanded an apology for a member who had received abusive telegrams and letters from a patient, and that this apology had been tendered. Eighteen minor applications were received and dealt with, including complaints of unqualified practice, covering and unprofessional behaviour.

BEXHILL.—Some public excitement seems to have prevailed in this town in connexion with some drainage works now in progress. The agitation was so pronounced that a public meeting was called to protest against the time chosen for the execution of the work—viz., the hottest season of the year, and when visitors arrive in large numbers. A good deal of animated talk was indulged in, and finally a motion to the effect above-mentioned was submitted and was carried almost unanimously. The local board of Bexhill was engaged a few days ago upon a question as to the site of a sanatorium, the land for which has been generously given by Mr. Walker of that town. It appears, however, that the local board has been in treaty for a plot of land to be used as a cemetery in contiguity with the site on which the sanatorium is proposed to be erected. It seems probable therefore that the suitability of the site for the sanatorium will have to be reconsidered.

PRESENTATIONS.—On June 30th on the occasion of the distribution of certificates to the members of the ladies' nursing and men's first aid ambulance classes, Mr. J. Ringwood, L.R.C.P.I., &c., of Kells, county Meath, was presented by the members of the ladies' class with a beautiful silver revolving soup tureen and by the members of the men's class with a very handsome wrought-metal floor-lamp as tokens of their appreciation of his instructions. Thirty-two candidates out of thirty-four who presented themselves for examination obtained certificates.—Mr. George E. Morrison, M.B., C.M. Edin., lately surgeon-superintendent of the Ballarat District Hospital, Victoria, Australia, has been presented with an illuminated address, bearing the signatures of the leading inhabitants of the city, accompanied by a purse of gold.—The annual inspection and display of the Aston fire brigade and the Highway and Sanitary Departments of the Local Board, held on June 21st, was taken advantage of for the presentation to Mr. R. R. Hoare, F.R.C.S. Edin., of a massive silver inkstand in recognition of his services as honorary surgeon to the brigade above mentioned during a period of twelve years. Captain Treadaway, chief of the brigade and superintendent of the sanitary department, in making the presentation spoke in very flattering terms of the estimable services rendered by their medical colleague, who by his urbanity and the exercise of his professional skill had earned the high esteem of all. Mr. Hoare, in acknowledging the gift, feelingly alluded to the cordial relations which had existed between himself and the members of the brigade during the twelve years of his relationship with them, which he hoped would be maintained for at least another twelve years.

HULL CHILDREN'S HOSPITAL.—At the annual meeting of this hospital, held on June 30th, it was stated that the number of in-patients for the year amounted to 623, the attendances being 1000. The building fund was nearly £1000 in debt, the total indebtedness of the hospital amounting to £1162. Mr. Arthur Wilson, the chairman, promised to give £500 towards the liquidation of the amount on condition that £500 more was raised.

ST. MARY'S HOSPITAL.—A festival dinner in aid of St. Mary's Hospital was held at the Hôtel Métropole on Saturday last, July 1st, when the Duke of Cambridge presided. In replying to Sir James Crichton Browne's toast of the Military and Naval Forces and the wish that the Commander-in-Chief would call upon the wealthy men of London to "present arms," the chairman said the expenditure last year left a deficit of £9000. He appealed for support especially for the new Clarence Wing. Amongst those present were Cardinal Vaughan, the Hon. H. L. Noel, General Lowry, Canon Duckworth, Colonel FitzGeorge and the members of the medical staff of the hospital. Subscriptions to the amount of £3000 (including £20 from the chairman, £105 from the Rajah of Bobbili, £250 from the Grocers' Company and £200 from Mr. Freeman) were announced.

EDINBURGH UNIVERSITY.—Mr. A. J. Balfour, M.P., Chancellor of the University of Edinburgh, presided at a meeting to promote a scheme for securing to the University a field for athletic sports. Mr. Balfour, who presided, and Sir Andrew Clark urged the importance of physical exercise to students and of supplying them with the means by which physical exercise may be carried out. An opportunity has arisen by which an excellent field, within a convenient distance of the University, may now be purchased for the sum of £9500. A fund for the purpose named has been commenced and has already amounted to nearly one-third of the cost price, and it is anticipated that there will be no difficulty in speedily securing the remainder.

Parliamentary Intelligence.

THE HOUSE OF LORDS.

THURSDAY, JUNE 29TH.

Sale of Intoxicating Liquors (Ireland) Bill.

On the report of amendments to this Bill, the Earl of Meath moved an amendment the effect of which would be to extend the operation of the measure to the six townships within the area of the metropolitan police districts of Dublin which were outside the municipal area of the city.—Lord Plunket supported the amendment. He said the townships were almost unanimously in favour of the Bill, and there was no reason why they should not be included in its operations.—Lord Rookwood opposed the amendment.—After Earl Spencer had explained the position which the Government had decided to adopt, and stated that it seemed to him desirable that the area of exception should be made to correspond with the municipal boundary of Dublin, the amendment of Lord Meath was agreed to.—On the following day (June 30th) the Bill was read a third time and passed.

THE HOUSE OF COMMONS.

FRIDAY, JUNE 30TH.

Manufacture and Sale of Opium.

On the motion for going into Committee of Supply, Mr. Webb moved an amendment expressive of the opinion of the House that a Royal Commission should be appointed to inquire into the growth, manufacture and sale of opium both in India and in this country. The amendment was directed primarily to the question as to what effect on the revenue would result from the suppression of the opium traffic. The remarks of the hon. gentleman, however, took a wider range and included reflections on the deleterious effects of the general use of the drug.—Sir J. Pease seconded the amendment.—Mr. Gladstone stated his reasons for not assenting to the resolution and moved the amendment standing in the name of the Under-Secretary for India, which was to the effect that a Royal Commission be appointed to inquire into the whole subject. This amendment was finally agreed to and Mr. Webb's resolution was negatived.

MONDAY, JULY 3RD.

Importation of Canadian Cattle.

In reply to Sir J. Kinloch, Mr. Gardner said that a microscopic examination of the lungs of the animal already referred to had unfortunately confirmed the conclusions arrived at by his veterinary advisers—viz., that the animal was suffering from contagious pleuro-pneumonia. He had, therefore, no alternative but to maintain, in the case of Canada, the normal requirement to which all imported cattle are subjected under the statute—viz., that they must be slaughtered at the port of landing.—In reply to a further question, put this time by Dr. Farquharson, Mr. Gardner said he was informed by his advisers that they were able to differentiate contagious from non-contagious pleuro-pneumonia.

Importation of Milk.

On this subject a question was asked by Mr. Long, who desired to know whether dairies and cow-sheds were subjected to official inspection in countries, such as Holland, from which milk consumed in the United Kingdom was derived.—Mr. H. Fowler replied that the Local Government Board had no information with regard to the sanitary condition of such places in the country mentioned or of Denmark and Sweden. As a matter of fact, the value of liquid milk and cream imported into this country during the present year amounted to only £630 and of this sum £17 represented the value of the imports of milk from Denmark and Sweden.

Precautions against Cholera.

Mr. H. S. Foster asked whether the Government were prepared to give facilities for the discussion of the question dealing with the threatened invasion of cholera. The reply of Mr. H. Fowler being unsatisfactory to the hon. member, he moved the adjournment of the House in order that the matter might be discussed. He said the existing arrangements were inadequate to cope with the threatened danger. The Speaker, interposing, said the motion of Mr. Foster was impossible by reason of the two motions already down on the paper for Friday. The subject was revived on the following day (July 4th) by Mr. Chamberlayne, who asked the President of the Local Government Board if he would impress on the local authorities the advisability of contributing towards the expenditure necessary to establish an efficient blockade at our seaports against the incursion of the disease.—In reply, Mr. H. Fowler said he was sorry to be unable to comply with the suggestion.

TUESDAY, JULY 4TH.

Sale of Intoxicating Liquors (Ireland) Bill.

This Bill was read a first time, and was put down for reading on the 11th inst.

Field Duties of Army Surgeons.

Mr. A. C. Morton asked the Secretary of State for War what training army surgeons received to enable them to efficiently carry out their duties on the field of battle, and whether in the execution of those duties in time of peace they received the assistance of the authorities.—Mr. Campbell-Bannerman detailed at some length the course of instruction to which medical officers are, on joining the service, required to follow. [The details of the course of instruction at Netley are fully given in the Students' Number of THE LANCET published in September.] The right honourable gentleman added that it was intended that some additional opportunity would be afforded to army surgeons for special training in field duties.

IN THE COMMITTEE ROOMS.

THE REGISTRATION OF MIDWIVES.

The Select Committee of the House of Commons appointed to inquire into the subject of the registration of midwives met on Friday, June 30th, under the presidency of Mr. Fell Pease.

Mr. BRAXTON HICKS, coroner for the South-Western Division of London and the Kingston Division of Surrey, was the first witness examined. He said, in reply to the Chairman, that it was the usual practice in poor districts for motherly old persons to be called in to attend confinements. These women had no other qualifications save that they had attended a certain number of deliveries. In his opinion registration would imply responsibility and would be a check upon improper practices.

By Dr. Farquharson: It would be cruel to prevent the motherly old persons he had referred to from being called in, but he thought midwives should be registered after having passed a suitable examination. He was strongly opposed to midwives giving certificates of death.

By Mr. Priestley: It was not an uncommon practice on the part of registrars to accept the certificates of midwives. Some country registrars accepted almost anything. He thought the registration laws at present were a complete farce. He would make it illegal for a person to attend a case of puerperal fever and afterwards attend a confinement. He had sent a woman for trial for doing this, but she was acquitted. Indeed, it was impossible to get a jury to convict a woman on a charge of manslaughter in such circumstances. Still, he thought it should be made some sort of offence.

By the Chairman: Cases of stillbirth brought about by the attendance of unqualified midwives had come within his knowledge. He had suspected deliberate intention in some cases.—The Chairman: We had evidence last year showing that there were such cases?—The Witness: I have no doubt about it, but the juries will not convict. Another point was that there should be registration of stillbirths, without which they would have no means of checking midwives. No certificates of stillbirths should be accepted unless examined by a registered medical man.

Mr. Bott of Brentford, in the course of examination, said that in his town there were two or three unqualified old women who went about attending poor cases. They charged very small fees and it was difficult to say what they did, because they did it so quietly. He had no doubt it frequently happened that children's lives were lost through the ignorance of these women. In his opinion midwives should be certificated and registered. Such a practice would be an immense protection to poor people.

By Mr Priestley: The great importance of having midwives in poor parishes was that they acted as nurses in a way that a medical man could not do.

By the Chairman: Although he had entertained grave suspicion of ill-effects arising from the attendance of unqualified persons, he had never been able to fix upon anybody. The registrar in his parish accepted the certificates of qualified midwives.

Dr. Emmerson of Biggleswade cited several instances from his own experience of malpractices by unqualified midwives. He expressed the opinion that the preference for the attendance of a woman at a confinement to that of a medical man was entirely a question of money. If people in his neighbourhood wanted a nurse they could obtain a parish order. The idea of pauperism did not intervene here; there was no feeling about it. The wages of the people were so low that they were accustomed to charity in every form. They regarded it almost as a right to obtain a parish order. He did not think that a practitioner's practice in a parish would suffer from the presence of a certificated midwife. The possession of a certificate would of course lead to higher charges being made.

The Committee then adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BARKER, W. J. T., L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer for the No 2 Sanitary District of the Parish of Streatham of the Wandsworth and Clapham Union.

BARRINGTON, F. A., L.R.C.P., L.M., L.R.C.S.Irel., has been appointed Assistant Medical Officer of Health to the Lynn Town Council.

BOTHWELL, G. GRANVILLE, M.B., C.M. Aberd., has been appointed Assistant House Surgeon to the Infirmary, Halifax.

CAHILL, MARK F., L.R.C.P., L.R.C.S.I., has been appointed Assistant Physician to the Children's Hospital, Dublin.

CRESSY, C. J., L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Highworth and Swindon Union.

DRAKE, A. T., M.B., L.R.C.S.Irel., has been appointed Medical Officer for the No. 4 (Deptford) Sanitary District of the Greenwich Union, vice Rogers.

ECCLES, W. MCADAM, M.B., B.S.Lond., F.R.C.S.Eng., has been appointed Assistant Surgeon to the West London Hospital.

GOSSAGE, W. HERBERT, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Westminster Hospital.

GRIFFITHS, WILLIAM HUGHES, M.R.C.S., has been reappointed Medical Officer of Health for the Hinckley Urban Sanitary District.

HARRIS, HOWARD, L.R.C.P.Edin., M.R.C.S., has been appointed Medical Officer for the Brandwood Sanitary District of the Rochdale Union.

HARWOOD, CHARLES, M.D., L.R.C.S.Edin., has been reappointed Medical Officer of Health for the Shardlow Rural Sanitary District.

HUSBAND, CHARLES, M.R.C.S., has been reappointed Medical Officer of Health for the Ripon City.

HUTCHINSON, J. A., M.D.Durh., M.R.C.S., has been appointed Medical Officer for the Northallerton Sanitary District of the Northallerton Union, and also Public Vaccinator and Medical Officer for the Northallerton Urban and Rural Sanitary Districts, vice Lumley.

JAMIE, ROBERT W., M.B., C.M.Edin., D.P.H.Camb., has been appointed Medical Officer for the Fifth Sanitary District of the Ashby-de-la-Zouch Union.

JOHNSTON, G. H., L.R.C.P. & S. Edin., has been appointed Junior Assistant Medical Officer of the North Riding Lunatic Asylum, Clifton, York.

KERSHAW, H. W., M.R.C.S., L.R.C.P., has been appointed Senior Assistant Medical Officer of the North Riding Lunatic Asylum, Clifton, York.

KNOTT, J., M.D., B.Ch., M.R.C.P., F.R.C.S.Irel., has been appointed Medical Officer to the Society for the Prevention of Cruelty to Children, Dublin.

LEACHMAN, A. W., M.D.St. And., M.R.C.S., D.P.H.Camb., has been appointed Medical Officer of Health for the Horsham Urban Sanitary District.

LIVESAY, WILLIAM, M.D., C.M.Edin., has been appointed Medical Officer for the Sudbury Sanitary District of the Uttoxeter Union.

LOGIE, J., M.B., C.M.Aberd., has been appointed Public Vaccinator for Woolwich.

M'ARTHUR, DUNCAN, M.D., C.M.Edin., has been appointed Medical Officer for the East Sanitary District of the Luton Union.

MUDGE, JAMES, L.R.C.P., L.M. Edin., M.R.C.S., has been reappointed Medical Officer for the Phillack Sanitary District of the Redruth Union.

OGDEN, CHAS., L.R.C.P., L.M. Edin., M.R.C.S., has been reappointed Medical Officer of Health for the Milnrow Urban Sanitary District of the Rochdale Union.

OSBORN, E. COLLET, L.R.C.P. Lond., has been appointed Senior House Surgeon to the Westminster Hospital.

ROBERTS, A., F.R.C.S.Edin., M.R.C.S., has been appointed Assistant Surgeon to the Royal Berkshire Hospital, vice Maurice.

SPOKES, SIDNEY, M.R.C.S., L.D.S., has been appointed Dental Surgeon to the University College Hospital, vice S. J. Hutchinson, M.R.C.S., L.D.S., resigned.

VOELCKER, A. F., has been appointed Assistant Physician to the Hospital for Sick Children, Great Ormond-street, W.C., vice Dr. W. B. Hadden, deceased.

WEIR, GEO. W., M.D., M.Ch., D.P.H. Camb., has been reappointed Medical Officer of Health for Jarrow-on-Tyne.

WHICHER, A. H., M.R.C.S., has been appointed Medical Officer of Health for the Midsomer Norton Urban Sanitary District.

WILLIAMS, HENRY W., M.D., has been appointed Consulting Physician to the Infirmary for Consumption and Diseases of the Chest and Throat, Margaret-street, W.

WINCKWORTH, WADHAM B., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to the Westminster Hospital.

YOUNGER, EDWARD GEO., M.D. Brux., M.R.C.P. Lond., has been appointed Physician to the Infirmary for Consumption and Diseases of the Chest and Throat, Margaret-street, W., vice H. W. Williams, M.D.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BOROUGH OF CREWE.—Medical Officer of Health. Salary £200 per annum. Applications to the Town Clerk, Municipal Offices, Exchange-street, Crewe.

CENTRAL LONDON OPHTHALMIC HOSPITAL, 233, Gray's-inn-road.—House Surgeon. Rooms, coals and lights provided.

CHARING-CROSS HOSPITAL, W.C.—Assistant Surgeon.

COUNTY ASYLUM, Lancaster.—Assistant Medical Officer, who shall act as Pathologist (unmarried). Salary £100, increasing by annual instalments of £25 to £200 per annum, with furnished apartments, board &c.

COUNTY ASYLUM, Lancaster.—Clinical Assistant for six months. Board, lodging &c. provided.

DEACONESSES' INSTITUTION AND HOSPITAL, Tottenham.—Two Resident House Surgeons. Salaries £40 and £60, with board, residence and laundry.

GENERAL INFIRMARY, Leeds.—Resident Medical Officer. Salary £100 per annum, with board, washing and lodging.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, 32, Portland-terrace, Regent's-park, N.W.—Physician to Out-patients.

LONDON SCHOOL OF MEDICINE FOR WOMEN, 30, Handel-street, Brunswick-square, W.C.—Lectureship of Midwifery.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer (unmarried) for one year. Salary £150 per annum, with board and residence.

NORTH EASTERN HOSPITAL FOR CHILDREN, Hackney-road, N.E.—Resident Clinical Assistant.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Physician.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City road, E.C.—Assistant Physician.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Assistant House Surgeon. Board and rooms provided.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE, E.C.—Demonstrator of Physiology.

UNIVERSITY COLLEGE, London.—Assistant Obstetric Physician.

WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—Resident House Surgeon. Salary £50 per annum, with board and lodging and washing on the premises.

YORKSHIRE COLLEGE, Leeds.—Demonstrator of Anatomy.

Births, Marriages and Deaths.

BIRTHS.

BROWN.—On July 2nd, at Museum-street, Ipswich, the wife of Herbert H. Brown, M.D., F.R.C.S., of a daughter.

FROSSARD.—On July 1st, at Mortimer House, Bishop's Lydeard, the wife of Emilien Frossard, M.R.C.S., L.R.C.P. Lond., of a son.

JONES.—On June 25th, at Ashton Old-road, Openshaw, Manchester, the wife of Edwin Evanson Jones, surgeon, of a daughter.

POWERS.—On June 29th, at 4, Park-terrace, Silloth, Cumberland, the wife of C. H. Powers, L.R.C.P. Lond., M.R.C.S. Eng., of a son.

TURNER.—On June 19th, at Broxbourne, the wife of George Turner, M.B., of a son.

MARRIAGES.

COOK—MACDONALD.—On July 5th, at the Cathedral of St. Ninian's, Perth, by the Lord Bishop of Argyll and the Isles, assisted by the Dean of St Andrew's, Philip Inkerman Cook, M.D. &c., son of the late Dr. John Cook of Glais, Swansea Valley, to Miss Caroline Burns Macdonald, daughter of the late Mrs. Macdonald of Glencoe and A. Burns Macdonald, Perth.

ENGLISH—FORSTER.—On June 28th, at St. Michael's, Heighington, Durham, Edgar English, M.R.C.S., London, second son of the late Dr. English of Aislaby Lodge, Whitby, Yorkshire, to Edith eldest daughter of Edward Forster of Halliwell House, Heighington.

MANN—SKELTON.—On July 4th, at St. Bride's Church, Glyn-Ceiriog, by the Rev. Thomas Skelton, B.D., Canon of Southwell, uncle of the bride, assisted by the Rev. R. Jennings, M.A., Vicar of Glyn, and the Rev. S. Cooper Scott, Rector of St John's, Chester, Alfred Mann, M.D., of Chester, youngest son of the late C. Wharton Mann, Esq., M.R.C.S., to Lilian, third daughter of William Skelton, Esq., Lakenham, Norwich. No cards.

RILEY—SYRÉE.—On June 29th, at St. Mary's, Chartham, Kent, by the father of the bride, assisted by the Rev. Eric Austen, Roland John Riley, M.R.C.S., of Cannock, to Gertrude, younger daughter of the Rev. P. J. Syrée.

ROBBS—SABISTON.—On July 4th, at St Martin's-in-the-Fields, London, Charles Edward Robbs, M.B.Cantab., B.Sc.Lond., of Lodgewood, Gravesend, to Emily Elizabeth (Sissie), eldest daughter of Captain Sabiston, Gravesend.

SLAUGHTER—GREENWAY.—On June 29th, at St. Cuthbert's Church, Darwen, John Walter Slaughter, Surgeon R.N., elder surviving son of Captain Slaughter, R.N., of First Avenue, Brighton, to Charlotte J., second daughter of the Rev. Charles Greenway, Darwen Bank, Darwen.

WHEELER—WHEELER.—On June 29th, at Ipswich, Queensland, Australia, James Atkin Wheeler, M.B., B.S., to Lilian Constance Wheeler, daughter of Daniel Wheeler, M.R.C.S., Chelmsford.

DEATHS.

BROUGH.—On June 10th, at Dinapore, James Murray Brough, M.B., aged 37.

GARRY.—On July 1st, at his residence, Brighton-road, Surbiton, Surrey, James Garry, L.R.C.P., L.R.C.S. Edin.

POULAIN.—On June 29th, at Fulham-road, S.W., Victor Peter Anthony Poulain, M.D., aged 73.

SHEARMAN.—On June 27th, at Somerville, Irlams-o'th-Height, near Manchester, William Millar Shearman, M.R.C.S., L.R.C.P.Ed, aged 44 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 5th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
June 29	29·84	S.W.	61	59	101	63	59	·58	Cloudy
,, 30	30·33	S.W.	57	52	119	72	48	—	Hazy
July 1	30·14	S.E.	66	62	121	79	58	—	Hazy
,, 2	30·19	N.E.	68	64	124	85	60	..	Hazy
,, 3	30·16	S.E.	66	61	119	80	61	..	Hazy
,, 4	30·03	E.	63	58	116	75	57		Bright
,, 5	29·76	N.E.	64	62	83	69	55	·26	Cloudy

Medical Diary for the ensuing Week.

Monday, July 10.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL. Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.

Tuesday, July 11.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45; Saturday, 9.15.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

Wednesday, July 12.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, July 13.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

Friday, July 14.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.

Saturday, July 15.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

PRECAUTIONS AGAINST CHOLERA.

IN the Prussian Parliament sitting on July 4th, in answer to the question as to what precautions the Government intended to take against cholera, Minister Bosse replied that the precautions taken last year were more successful than could have been expected, and if cholera should once more break out the same or similar means would be again employed. The Government were convinced that the traffic regulations should be more liberal and that interference with traffic should be reduced to a minimum. The regulations would be considerably less burdensome and less costly than before. The *personnel* was selected and ready for action, and the arrangements for the early diagnosis of cholera were more complete than hitherto. The bacteriological stations had been increased in number. Last year taught that the waterways were a special source of danger, and particular weight would therefore be laid upon the systematic inspection and control of the traffic by water, especially on the Vistula, which was very open to infection from Russia.

DR. E. J. TILT.

IN THE LANCET of June 3rd, 1893, page 1257, is an answer to a correspondent who wished to know some of the English works which had been translated into the Italian tongue. Amongst those mentioned are the "gynæcological treatises of *the late* Dr. E. J. Tilt." We are glad to have the satisfaction of correcting the inadvertence and of assuring his many friends in the profession that Dr. Tilt is in the enjoyment of his usual health.

"MEDICAL SWINDLES."

UNDER this heading the *Agents' Journal* of July 1st calls the attention of its readers to certain nefarious practices carried on by unprincipled persons under the guise of ministering to the necessities of the sick, chiefly the poor. Dispensaries come in for a large share of the writer's denunciations, and on the whole there is reason for the latter, though the exercise of discrimination is necessary in this as in other social questions. Then the irregularity in giving death certificates is a matter upon which much might be said by way of complaint. For advertising quacks the writer has a wholesome abhorrence, which indeed must be shared by all intelligent persons who have any regard for the health and the pockets of their fellows. These things have been set forth times without number, in our own columns as well as in other publications, but the public are slow to learn. Calamity as the result of following false counsels is in many cases the only teacher which commands attention.

A. M.—It is quite proper and customary when a medical man changes his place of residence to intimate the same on the old one, or wherever he has been in the habit of seeing his patients. In a foreign country some slight amplification of this rule may be allowed for the benefit of compatriots and others who are "strangers in a strange land." But still the more the spirit of the home practice of not advertising professional arrangements in public places can be observed the better.

Mr. R. A. Billiald.—Mr .Laurence Humphry's volume on Nursing will probably be sufficient for our correspondent's purpose.

AMMONIATED TINCTURE OF QUININE.

To the Editors of THE LANCET.

SIRS,—Can any of your numerous readers suggest a ready means of dispensing this tincture? Under ordinary circumstances when mixed with water a considerable percentage of the quinine is almost immediately precipitated and assumes the form of a viscid mass which adheres to the sides of the bottle, forms a most unsightly mixture and is apparently perfectly insoluble. It is often desirable to exhibit quinine in the presence of an alkali, for which reason, I presume, the tincture in question was admitted to the British Pharmacopœia; but as now compounded it is practically useless for purposes of dispensing, as there is no guarantee as to the amount of quinine remaining in solution after a mixture is made up.

I am, Sirs, yours truly,

July 4th, 1893. DISPENSER.

"THE PROPER SENTIMENT TOWARDS A NEWCOMER."

Cambyses writes in reference to this subject: "Let me record a case occurring in the district in which I practise. A newcomer settled down on the edge of my ground when I purchased. I called on him, and he not only did not return the call, but during the last five years has underbidden me in clubs, though unsuccessfully. He has tried to force himself on me as a consultant and has offered to visit a patient before my professional care was over for the time being—ostensibly as a friend, of course. After all, it is the sort of man that is in evidence, not the position or relationship."

Dr. Wm. Murdoch (Annan).—Particulars of the "Rescue Race," we have no doubt, will be readily supplied to our correspondent on application to Sir Benjamin Ward Richardson.

THE UNQUALIFIED PRACTITIONERS OF OVER TWENTY YEARS' STANDING.

THE only remedy for such a case is in the hands of the Apothecaries' Society, whose Act is violated. They should be asked to prosecute. We gather that there is no violation of the Medical Act by the use of false titles.

Mr. R. W. Garrett.—We agree with our correspondent as to the nature of the advertisement. We do not see the name of the hospital in recognised lists of hospitals or any name and address corresponding to the description in the Medical Register or the Medical Directory. The public should use its brains a little more in scanning such advertisements and their probable significance; but this is, perhaps, expecting the improbable.

Broad Arrow should apply to the Home Department for the information he requires regarding the conditions of admission to the Prison Service.

Mr. J. W. Draper (Huddersfield) should address the question to the Secretary of the Royal British Nurses' Association.

"IZAL."

Mr. J. H. Worrall, F.I.C., F.C.S., the discoverer of "Izal," points out, in reference to our analytical observations on this substance last week, that, although some of the reactions would appear to indicate the presence of phenol compounds, yet an exhaustive examination shows that it is entirely free from carbolic acid. The boiling point, for example, is considerably higher than that of pure carbolic acid. Izal would appear to be a compound intermediate in character between the benzenes and the paraffins, and the inventor, who hopes before long to give a fuller account of its chemical nature and structure, regards it as consisting mainly of a group of oxidised hydrocarbons, a conclusion which, to some extent, would explain its non-caustic action upon the skin and its non-poisonous character.

Dr. J. Liddell (Harrogate).—Since all miners waters contain saline matters, and especially chlorides, the same effect—namely, that of producing an increase in the amount of urea excreted—cannot be characteristic of Harrogate water alone.

Mr. Mark W. Dixon will find the subject to which his communication alludes dealt with in an article in the present number of THE LANCET.

A NOTIFICATION PROBLEM.

To the Editors of THE LANCET.

SIRS,—Can a medical man who has been elected a member of a local board legally charge for notifying infectious diseases to the said board?

I am, Sirs, your obedient servant,

June 19th, 1893. A. F.

*** By Section 57 of the Public Health (London) Act it is provided that "a payment made to any medical practitioner in pursuance of the provisions of this Act with respect to the notification of infectious disease shall not disqualify that practitioner for serving as a member of the county council, or of a sanitary authority, or as a guardian of the Poor-law union, or in any other public office."—ED. L.

PLASMODIA IN SIBERIA.

AT a recent session of the Tomsk Society of Naturalists and Medical Practitioners Dr. T. D. Borovkoff exhibited a specimen of plasmodia from the blood of a patient with malarial fever in the therapeutic department of Professor Kurloff's clinic. This is believed to be the first time that plasmodia have been found in Siberia. The patient, it should be noted, had come from European Russia.

Dr. J. W. Greenwood.—It is impossible for us to advise without knowing the terms of contract and other circumstances. Our correspondent should consult a solicitor.

Inquirer.—A fortnight is not a long time in such matters. Our correspondent's course for some time to come is to wait and give his senior credit for all neighbourly virtues.

IN the public elementary schools of Berlin on May 1st, 1893, there were in attendance 88,265 boys and 90,733 girls.

Mr. Chauncy Puzey will see that his communication has received our attention.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Birmingham and Aston Chronicle, City Press, Yorkshire Post, Liverpool Daily Post, Bristol Mercury, Mining Journal, Weekly Free Press and Aberdeen Herald, Leeds Mercury, Morning, Local Government Chronicle, Hertfordshire Mercury, Daily Chronicle, Melbourne Leader, Manchester Examiner, Family Doctor, Society, Medical Record, Midland Counties Herald, Brighton Gazette, St. James's Gazette, Chester Chronicle, South-Western Echo (Riversdale, Cape Colony), Surrey Advertiser, West Middlesex Advertiser, Times of India, Pioneer Mail, Architect, Builder, Cheshire Observer, Nottingham Daily Express, Northern Daily Telegraph, Alliance News, Westmoreland Gazette, Kensington News, Cork Constitution, Manchester Courier, Bexhill Chronicle, Scarborough Post, Pharmaceutical Journal, Public Health, Hexham Herald, Civil and Military Gazette (Lahore), Electro-Hygiene, Child's Guardian, Sanitary Record, Wigan Examiner, Sunday Times, North Devon Journal, Home News, Scientific American, Ashton-under-Lyne Reporter, Stafford Evening Post, Harrogate Advertiser, Bournemouth Directory, Henley Advertiser, Portsmouth Evening Mail, Rossendale Division Gazette, Scotsman, Oldham Daily Standard&c. &c.*

Communications, Letters &c. have been received from—

A.—Mr. Sydney E. Atkins, Newmarket; Mr. James F. Alexander, London; Messrs. R. Alexander and Son, Edinburgh; Messrs. Allen and Hanburys, London.

B.—Dr. G. Granville Bothwell, Halifax; Dr. T. M. Bonar, Probus; Surgeon-Captain Collis Barny, Bombay; Mr. J. Bell, London; Mr. C. Birchall, Liverpool; Mr. S. A. Blackwood, London; Messrs. Benson and Co., London; Belfast, Our Own Correspondent; B., London.

C.—Dr. M. Charteris, Glasgow; Dr W. D. Chase, Peterborough, N.H.; Mr. T. Cooke, London; Mr. John Cochrane, Greenock; Mr. J. Calder, Bristol; Mr. J. J. Clark, West Brighton; Messrs. Clarke, Son and Platt, London; Messrs. Crossley, Moir and Co., London; Messrs. Christy and Co., London; Messrs. Condy and Mitchell, London; Messrs. Carnrick and Co., London; Country Town, London; Chesterfield Hospital, Secretary of.

D.—Dr. V. De Laprado, Lyon; Mr. J. W. Draper, Huddersfield; Mr. Mark W. Dixon, Bath; Mr. R. A. Dove, Edinburgh; Mr. A. V. Dyer, Bishop's Waltham; Mr. J. E. Dawson, London; Messrs. W. Dawson and Sons, London; Messrs. Duncan, Flockhart and Co., Edinburgh; Dr., London.

E.—Enquirens.

F.—Dr. A. Hanbury Frere, Menstone; Dr. R. M. Fenn, Nottingham; Mr. M. Forster, Newcastle-on-Tyne; Mr. Faushes, London; Messrs. Fitt & Hollick, London; F.R.M.S.

G.—Dr. W. R. Gowers, London; Dr. M. Granville, London; Dr. J. Guest Gornall, Warrington; Dr. J. W. Givens, Blackfoot, Idaho; Surg.-Major H. R. Greene, Southsea; Mr. C. Green, London; Mr. Frank Gibb, London; General Life Assurance Co., London; Great Eastern Railway Co., Continental Traffic Manager of, London.

H.—Dr. H. A. Hare, Philadelphia; Mr. J. Heywood, Manchester; Mr. M. J. Houghton, Birmingham; Mr. T. F. Hanley, London; Messrs. Herts, Son & Co., London.

I.—Inquirens.

J.—Dr. H. J. Johnston-Lavis, Harrogate; Dr. H. N. H. Joynt, Labasa, Fiji; Mr. George R. Jesse, Cheshire; Mr. G. H. Johnson, Teignmouth.

K.—Mrs. J. Frederick Knott, Stalybridge.

L.—Mr. Richard R. Leeper, Rathdrum; Mr. C. Lovell, New York City; Mr. H. K. Lewis, London; Messrs. Lee and Martin, Birmingham; *Law Journal*, Editor of; London and Counties Medical Protection Society, Limited, Secretary of; Lancaster County Asylum, Steward of; Leeds General Infirmary, General Manager of; L. D., London.

M.—Dr. J. MacIntyre, Glasgow; Dr. J. Montgomery, Birmingham; Dr. T. G. McLauchlan, Birmingham; Dr. R. Maiр, Newbury; Dr. F. G. McNaught, Curragh Camp; Mr. G. H. Makins, London; Mr. T. Moring, London; Mr. H. A. Merry, Holbeach; Messrs. J. F. McFarlan and Co., London; Messrs. Mabbett and Edge, London; Manchester Royal Infirmary, Secretary of; Museums Association, London; Manchester Royal Infirmary, Secretary of; M. P. H.; Medicus, Wateringbury.

N.—National Hospital for the Paralysed, London, Secretary of.

O.—Mr. E. Owen, London; Mr. E. C. Osborn, London; Messrs. Oliver and Atcherley, Manchester.

P.—Dr. S. W. Plummer, Durham; Dr. F. C. Palmer, Woking; Mr. Chauncy Puzey, Liverpool; Mr. D. Peters, Bala; Mrs. Porter, Bristol; Messrs. R. Phipps and Co., London; Peterborough Infirmary, Secretary of; P. O., London.

R.—Mr. F. A. C. Richardson, Leicester; Mrs. Ralph-Hall, Buxton; Messrs. Robertson and Scott, Edinburgh; Messrs. Root and Co., London; Royal South Hants Infirmary, Southampton, Secretary of.

S.—Dr. A. E. Sterne, Indianapolis; Mr. P. Sidney Spokes, London; Mr. Clement H. Sers, London; Mr. H. Sell, London; Mr. R. B. Stedman, Godalming; Mr. P. B. Stoney, Millom; S. D., London; Southampton, Town Clerk of; Suburb, London; Surgeon-Major, Bombay; Scholastic, Clerical and Medical Association, Limited, London, Accountant of; St. Andrew's Hospital, Northampton, Secretary of; St. Thomas's Hospital, Treasurer of.

T.—Dr. J. C. Thresh, Chelmsford; Dr. William E. Tresidder, Nottingham.

V.—Dr. G. A. Van Someren, Orange; Dr. A. Veitch, Castle Cary; Mr. J. W. Vickers, London.

W.—Dr. F. J. Waldo, London; Mr. John Whaley, Lowestoft; Mr. W. Roger Williams, Preston; Mr. S. Wand, Leicester;

Y.—Mr. Herbert A. Yeldham, New Quay; *Yorkshire Post*, Leeds.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. F. A. Arkwright, Halesowen; Assistant, London; A. D., London; Alpha, London; A. B., Holbeach.

B.—Dr. C. Bage, Melbourne; Mr. J. H. Bustead, London; Mrs. S. A. Bennett, London; Burton-on-Trent Infirmary, Hon. Secretary of; Beta, London; Bona, London; Beta, Littleborough.

C.—Mr. J. D. Cockburn, London; Messrs. J. Cleave and Son, Crediton; C. R., London; Class Rooms, Edinburgh; Calculus, London; Chirurgicus, London; Cocaine, London.

D.—Dr. W. Dale, Bishopsteignton; Dr. R. G. Dowdall, Truro; Doctor, Canterbury.

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